

B. SIZE INFORMATION

This section gives size information for all of the property checks presented in the body of the paper. Data is presented in terms of several measures of program and property check size. LOC gives the number of lines of code for the Ada program, not counting blank lines and lines that contain only comments; Nodes and Edges are the number of nodes and edges of the TFG; Tuples is the number of different tuples created during state propagation; and Node-Tuples is the sum, for each node in the TFG, of the number of tuples on that node.

B.1 The Reader/Writer Program

Table XIII: Size Information for **exclusive read write**

Readers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	75	26	51	16	46
2	97	40	89	24	78
3	119	54	127	32	110
4	141	68	165	40	142
5	163	82	203	48	174
6	185	96	241	56	206
7	207	110	279	64	238
8	229	124	317	72	270
9	251	138	355	80	302
10	273	152	393	88	334
11	295	166	431	96	366
12	317	180	469	104	398
13	339	194	507	112	430
14	361	208	545	120	462
15	383	222	583	128	494
20	493	292	773	168	654
25	603	362	963	208	814
30	713	432	1,153	248	974
35	823	502	1,343	288	1,134
40	933	572	1,533	328	1,294
45	1,043	642	1,723	368	1,454
50	1,153	712	1,913	408	1,614
55	1,263	782	2,103	448	1,774
60	1,373	852	2,293	488	1,934
65	1,483	922	2,483	528	2,094
70	1,593	992	2,673	568	2,254
75	1,703	1,062	2,863	608	2,414
80	1,813	1,132	3,053	648	2,574
85	1,923	1,202	3,243	688	2,734
90	2,033	1,272	3,433	728	2,894
95	2,143	1,342	3,623	768	3,054

Table XIII: Size Information for **exclusive read write**

Readers	LOC	Nodes	Edges	Tuples	Node-Tuples
100	2,253	1,412	3,813	808	3,214
105	2,363	1,482	4,003	848	3,374
110	2,473	1,552	4,193	888	3,534
115	2,583	1,622	4,383	928	3,694
120	2,693	1,692	4,573	968	3,854
125	2,803	1,762	4,763	1,008	4,014
130	2,913	1,832	4,953	1,048	4,174
135	3,023	1,902	5,143	1,088	4,334
140	3,133	1,972	5,333	1,128	4,494
145	3,243	2,042	5,523	1,168	4,654
150	3,353	2,112	5,713	1,208	4,814
155	3,463	2,182	5,903	1,248	4,974
160	3,573	2,252	6,093	1,288	5,134
165	3,683	2,322	6,283	1,328	5,294
170	3,793	2,392	6,473	1,368	5,454
175	3,903	2,462	6,663	1,408	5,614
180	4,013	2,532	6,853	1,448	5,774
185	4,123	2,602	7,043	1,488	5,934
190	4,233	2,672	7,233	1,528	6,094
195	4,343	2,742	7,423	1,568	6,254
200	4,453	2,812	7,613	1,608	6,414
n	$22n + 53$	$14n + 12$	$38n + 13$	$8n + 8$	$32n + 14$

Table XIV: Size Information for **no write while reading**

Readers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	75	25	50	16	47
2	97	39	88	33	103
3	119	53	126	56	177
4	141	67	164	85	269
5	163	81	202	120	379
6	185	95	240	161	507
7	207	109	278	208	653
8	229	123	316	261	817
9	251	137	354	320	999
10	273	151	392	385	1,199
15	383	221	582	800	2,469
20	493	291	772	1,365	4,189
25	603	361	962	2,080	6,359
30	713	431	1,152	2,945	8,979
35	823	501	1,342	3,960	12,049

Table XIV: Size Information for **no write while reading**

Readers	LOC	Nodes	Edges	Tuples	Node-Tuples
40	933	571	1,532	5,125	15,569
45	1,043	641	1,722	6,440	19,539
50	1,153	711	1,912	7,905	23,959
55	1,263	781	2,102	9,520	28,829
60	1,373	851	2,292	11,285	34,149
65	1,483	921	2,482	13,200	39,919
70	1,593	991	2,672	15,265	46,139
75	1,703	1,061	2,862	17,480	52,809
80	1,813	1,131	3,052	19,845	59,929
85	1,923	1,201	3,242	22,360	67,499
90	2,033	1,271	3,432	25,025	75,519
95	2,143	1,341	3,622	27,840	83,989
100	2,253	1,411	3,812	30,805	92,909
105	2,363	1,481	4,002	33,920	102,279
110	2,473	1,551	4,192	37,185	112,099
115	2,583	1,621	4,382	40,600	122,369
120	2,693	1,691	4,572	44,165	133,089
125	2,803	1,761	4,762	47,880	144,259
130	2,913	1,831	4,952	51,745	155,879
135	3,023	1,901	5,142	55,760	167,949
140	3,133	1,971	5,332	59,925	180,469
145	3,243	2,041	5,522	64,240	193,439
150	3,353	2,111	5,712	68,705	206,859
155	3,463	2,181	5,902	73,320	220,729
160	3,573	2,251	6,092	78,085	235,049
165	3,683	2,321	6,282	83,000	249,819
170	3,793	2,391	6,472	88,065	265,039
175	3,903	2,461	6,662	93,280	280,709
180	4,013	2,531	6,852	98,645	296,829
185	4,123	2,601	7,042	104,160	313,399
190	4,233	2,671	7,232	109,825	330,419
195	4,343	2,741	7,422	115,640	347,889
200	4,453	2,811	7,612	121,605	365,809
n	$22n + 53$	$14n + 11$	$38n + 12$	$3n^2 + 8n + 5$	$9n^2 + 29n + 9$

Table XV: Size Information for **no write while reading 2**

Readers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	75	25	50	16	47
2	97	39	88	25	81
3	119	53	126	34	115

Table XV: Size Information for **no write while reading 2**

Readers	LOC	Nodes	Edges	Tuples	Node-Tuples
4	141	67	164	43	149
5	163	81	202	52	183
6	185	95	240	61	217
7	207	109	278	70	251
8	229	123	316	79	285
9	251	137	354	88	319
10	273	151	392	97	353
11	295	165	430	106	387
12	317	179	468	115	421
13	339	193	506	124	455
14	361	207	544	133	489
15	383	221	582	142	523
20	493	291	772	187	693
25	603	361	962	232	863
30	713	431	1,152	277	1,033
35	823	501	1,342	322	1,203
40	933	571	1,532	367	1,373
45	1,043	641	1,722	412	1,543
50	1,153	711	1,912	457	1,713
55	1,263	781	2,102	502	1,883
60	1,373	851	2,292	547	2,053
65	1,483	921	2,482	592	2,223
70	1,593	991	2,672	637	2,393
75	1,703	1,061	2,862	682	2,563
80	1,813	1,131	3,052	727	2,733
85	1,923	1,201	3,242	772	2,903
90	2,033	1,271	3,432	817	3,073
95	2,143	1,341	3,622	862	3,243
100	2,253	1,411	3,812	907	3,413
105	2,363	1,481	4,002	952	3,583
110	2,473	1,551	4,192	997	3,753
115	2,583	1,621	4,382	1,042	3,923
120	2,693	1,691	4,572	1,087	4,093
125	2,803	1,761	4,762	1,132	4,263
130	2,913	1,831	4,952	1,177	4,433
135	3,023	1,901	5,142	1,222	4,603
140	3,133	1,971	5,332	1,267	4,773
145	3,243	2,041	5,522	1,312	4,943
150	3,353	2,111	5,712	1,357	5,113
155	3,463	2,181	5,902	1,402	5,283
160	3,573	2,251	6,092	1,447	5,453
165	3,683	2,321	6,282	1,492	5,623

Table XV: Size Information for **no write while reading 2**

Readers	LOC	Nodes	Edges	Tuples	Node-Tuples
170	3,793	2,391	6,472	1,537	5,793
175	3,903	2,461	6,662	1,582	5,963
180	4,013	2,531	6,852	1,627	6,133
185	4,123	2,601	7,042	1,672	6,303
190	4,233	2,671	7,232	1,717	6,473
195	4,343	2,741	7,422	1,762	6,643
200	4,453	2,811	7,612	1,807	6,813
n	$22n + 53$	$14n + 11$	$38n + 12$	$9n + 7$	$34n + 13$

Table XVI: Size Information for **write first**

Readers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	75	21	45	9	38
2	97	35	85	15	70
3	119	49	125	21	102
4	141	63	165	27	134
5	163	77	205	33	166
6	185	91	245	39	198
7	207	105	285	45	230
8	229	119	325	51	262
9	251	133	365	57	294
10	273	147	405	63	326
11	295	161	445	69	358
12	317	175	485	75	390
13	339	189	525	81	422
14	361	203	565	87	454
15	383	217	605	93	486
20	493	287	805	123	646
25	603	357	1,005	153	806
30	713	427	1,205	183	966
35	823	497	1,405	213	1,126
40	933	567	1,605	243	1,286
45	1,043	637	1,805	273	1,446
50	1,153	707	2,005	303	1,606
55	1,263	777	2,205	333	1,766
60	1,373	847	2,405	363	1,926
65	1,483	917	2,605	393	2,086
70	1,593	987	2,805	423	2,246
75	1,703	1,057	3,005	453	2,406
80	1,813	1,127	3,205	483	2,566
85	1,923	1,197	3,405	513	2,726

Table XVI: Size Information for **write first**

Readers	LOC	Nodes	Edges	Tuples	Node-Tuples
90	2,033	1,267	3,605	543	2,886
95	2,143	1,337	3,805	573	3,046
100	2,253	1,407	4,005	603	3,206
105	2,363	1,477	4,205	633	3,366
110	2,473	1,547	4,405	663	3,526
115	2,583	1,617	4,605	693	3,686
120	2,693	1,687	4,805	723	3,846
125	2,803	1,757	5,005	753	4,006
130	2,913	1,827	5,205	783	4,166
135	3,023	1,897	5,405	813	4,326
140	3,133	1,967	5,605	843	4,486
145	3,243	2,037	5,805	873	4,646
150	3,353	2,107	6,005	903	4,806
155	3,463	2,177	6,205	933	4,966
160	3,573	2,247	6,405	963	5,126
165	3,683	2,317	6,605	993	5,286
170	3,793	2,387	6,805	1,023	5,446
175	3,903	2,457	7,005	1,053	5,606
180	4,013	2,527	7,205	1,083	5,766
185	4,123	2,597	7,405	1,113	5,926
190	4,233	2,667	7,605	1,143	6,086
195	4,343	2,737	7,805	1,173	6,246
200	4,453	2,807	8,005	1,203	6,406
n	$22n + 53$	$14n + 7$	$40n + 5$	$6n + 3$	$32n + 6$

B.2 The Gas Station Program

Table XVII: Size Information for **mutual exclusion**, 1 pump

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
2	138	55	144	179	751
3	187	76	258	1,258	6,347
4	236	97	396	8,289	47,661
5	285	118	558	51,908	330,493
6	334	139	744	313,087	2,170,599
7	383	160	954	1,836,450	13,714,835

Table XVIII: Size Information for **mutual exclusion**, 2 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
2	227	94	448	901	13,675

Table XVIII: Size Information for **mutual exclusion**, 2 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
3	311	132	976	14,169	346,331
4	395	170	1,680	201,637	6,814,799
5	479	208	2,560	2,720,705	117,309,035

Table XIX: Size Information for **mutual exclusion**, 3 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
2	316	133	880	2,101	52,361
3	435	188	2,078	51,165	2,162,142
4	554	243	3,732	1,126,693	67,393,343

Table XX: Size Information for **customer 1 start/stop**, 1 pump

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	89	33	53	2	33
2	138	54	125	2	54
3	187	75	221	2	75
4	236	96	341	2	96
5	285	117	485	2	117
6	334	138	653	2	138
7	383	159	845	2	159
8	432	180	1,061	2	180
9	481	201	1,301	2	201
10	530	222	1,565	2	222
15	775	327	3,245	2	327
20	1,020	432	5,525	2	432
25	1,265	537	8,405	2	537
30	1,510	642	11,885	2	642
35	1,755	747	15,965	2	747
40	2,000	852	20,645	2	852
45	2,245	957	25,925	2	957
50	2,490	1,062	31,805	2	1,062
55	2,735	1,167	38,285	2	1,167
60	2,980	1,272	45,365	2	1,272
65	3,225	1,377	53,045	2	1,377
70	3,470	1,482	61,325	2	1,482
75	3,715	1,587	70,205	2	1,587
80	3,960	1,692	79,685	2	1,692
85	4,205	1,797	89,765	2	1,797
90	4,450	1,902	100,445	2	1,902

Table XX: Size Information for **customer 1 start/stop**, 1 pump

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
95	4,695	2,007	111,725	2	2,007
100	4,940	2,112	123,605	2	2,112
105	5,185	2,217	136,085	2	2,217
110	5,430	2,322	149,165	2	2,322
115	5,675	2,427	162,845	2	2,427
120	5,920	2,532	177,125	2	2,532
125	6,165	2,637	192,005	2	2,637
130	6,410	2,742	207,485	2	2,742
135	6,655	2,847	223,565	2	2,847
140	6,900	2,952	240,245	2	2,952
145	7,145	3,057	257,525	2	3,057
150	7,390	3,162	275,405	2	3,162
155	7,635	3,267	293,885	2	3,267
160	7,880	3,372	312,965	2	3,372
165	8,125	3,477	332,645	2	3,477
170	8,370	3,582	352,925	2	3,582
175	8,615	3,687	373,805	2	3,687
180	8,860	3,792	395,285	2	3,792
185	9,105	3,897	417,365	2	3,897
190	9,350	4,002	440,045	2	4,002
195	9,595	4,107	463,325	2	4,107
200	9,840	4,212	487,205	2	4,212
n	$49n + 40$	$21n + 12$	$12n^2 + 36n + 5$	2	$21n + 12$

Table XXI: Size Information for **customer 1 start/stop**, 2 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	143	55	95	2	55
2	227	93	375	2	93
3	311	131	831	2	131
4	395	169	1,463	2	169
5	479	207	2,271	2	207
6	563	245	3,255	2	245
7	647	283	4,415	2	283
8	731	321	5,751	2	321
9	815	359	7,263	2	359
10	899	397	8,951	2	397
15	1,319	587	20,031	2	587
20	1,739	777	35,511	2	777
25	2,159	967	55,391	2	967
30	2,579	1,157	79,671	2	1,157

Table XXI: Size Information for **customer 1 start/stop**, 2 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
35	2,999	1,347	108,351	2	1,347
40	3,419	1,537	141,431	2	1,537
45	3,839	1,727	178,911	2	1,727
50	4,259	1,917	220,791	2	1,917
55	4,679	2,107	267,071	2	2,107
60	5,099	2,297	317,751	2	2,297
65	5,519	2,487	372,831	2	2,487
70	5,939	2,677	432,311	2	2,677
75	6,359	2,867	496,191	2	2,867
80	6,779	3,057	564,471	2	3,057
85	7,199	3,247	637,151	2	3,247
90	7,619	3,437	714,231	2	3,437
95	8,039	3,627	795,711	2	3,627
100	8,459	3,817	881,591	2	3,817
105	8,879	4,007	971,871	2	4,007
110	9,299	4,197	1,066,551	2	4,197
115	9,719	4,387	1,165,631	2	4,387
120	10,139	4,577	1,269,111	2	4,577
125	10,559	4,767	1,376,991	2	4,767
130	10,979	4,957	1,489,271	2	4,957
135	11,399	5,147	1,605,951	2	5,147
140	11,819	5,337	1,727,031	2	5,337
145	12,239	5,527	1,852,511	2	5,527
150	12,659	5,717	1,982,391	2	5,717
155	13,079	5,907	2,116,671	2	5,907
160	13,499	6,097	2,255,351	2	6,097
165	13,919	6,287	2,398,431	2	6,287
170	14,339	6,477	2,545,911	2	6,477
175	14,759	6,667	2,697,791	2	6,667
180	15,179	6,857	2,854,071	2	6,857
185	15,599	7,047	3,014,751	2	7,047
190	16,019	7,237	3,179,831	2	7,237
195	16,439	7,427	3,349,311	2	7,427
200	16,859	7,617	3,523,191	2	7,617
n	$84n + 59$	$38n + 17$	$88n^2 + 16n - 9$	2	$38n + 17$

Table XXII: Size Information for **customer 1 start/stop**, 3 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	197	77	137	2	77

Table XXII: Size Information for **customer 1 start/stop**, 3 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
2	316	132	753	2	132
3	435	187	1,825	2	187
4	554	242	3,353	2	242
5	673	297	5,337	2	297
6	792	352	7,777	2	352
7	911	407	10,673	2	407
8	1,030	462	14,025	2	462
9	1,149	517	17,833	2	517
10	1,268	572	22,097	2	572
15	1,863	847	50,257	2	847
20	2,458	1,122	89,817	2	1,122
25	3,053	1,397	140,777	2	1,397
30	3,648	1,672	203,137	2	1,672
35	4,243	1,947	276,897	2	1,947
40	4,838	2,222	362,057	2	2,222
45	5,433	2,497	458,617	2	2,497
50	6,028	2,772	566,577	2	2,772
55	6,623	3,047	685,937	2	3,047
60	7,218	3,322	816,697	2	3,322
65	7,813	3,597	958,857	2	3,597
70	8,408	3,872	1,112,417	2	3,872
75	9,003	4,147	1,277,377	2	4,147
80	9,598	4,422	1,453,737	2	4,422
85	10,193	4,697	1,641,497	2	4,697
90	10,788	4,972	1,840,657	2	4,972
95	11,383	5,247	2,051,217	2	5,247
100	11,978	5,522	2,273,177	2	5,522
105	12,573	5,797	2,506,537	2	5,797
110	13,168	6,072	2,751,297	2	6,072
115	13,763	6,347	3,007,457	2	6,347
120	14,358	6,622	3,275,017	2	6,622
125	14,953	6,897	3,553,977	2	6,897
130	15,548	7,172	3,844,337	2	7,172
135	16,143	7,447	4,146,097	2	7,447
140	16,738	7,722	4,459,257	2	7,722
145	17,333	7,997	4,783,817	2	7,997
150	17,928	8,272	5,119,777	2	8,272
155	18,523	8,547	5,467,137	2	8,547
160	19,118	8,822	5,825,897	2	8,822
165	19,713	9,097	6,196,057	2	9,097
170	20,308	9,372	6,577,617	2	9,372

Table XXII: Size Information for **customer 1 start/stop**, 3 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
175	20,903	9,647	6,970,577	2	9,647
180	21,498	9,922	7,374,937	2	9,922
185	22,093	10,197	7,790,697	2	10,197
190	22,688	10,472	8,217,857	2	10,472
195	23,283	10,747	8,656,417	2	10,747
200	23,878	11,022	9,106,377	2	11,022
n	$119n + 78$	$55n + 22$	$228n^2 +$ $-68n - 23$	2	$55n + 22$

Table XXIII: Size Information for **pump 1 start/stop**, 1 pump

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	89	32	52	10	72
2	138	53	142	17	282
3	187	74	262	24	549
4	236	95	418	31	904
5	285	116	610	38	1,347
6	334	137	838	45	1,878
7	383	158	1,102	52	2,497
8	432	179	1,402	59	3,204
9	481	200	1,738	66	3,999
10	530	221	2,110	73	4,882
15	775	326	4,510	108	10,617
20	1,020	431	7,810	143	18,552
25	1,265	536	12,010	178	28,687
30	1,510	641	17,110	213	41,022
35	1,755	746	23,110	248	55,557
40	2,000	851	30,010	283	72,292
45	2,245	956	37,810	318	91,227
50	2,490	1,061	46,510	353	112,362
55	2,735	1,166	56,110	388	135,697
60	2,980	1,271	66,610	423	161,232
65	3,225	1,376	78,010	458	188,967
70	3,470	1,481	90,310	493	218,902
75	3,715	1,586	103,510	528	251,037
80	3,960	1,691	117,610	563	285,372
85	4,205	1,796	132,610	598	321,907
90	4,450	1,901	148,510	633	360,642
95	4,695	2,006	165,310	668	401,577
100	4,940	2,111	183,010	703	444,712

Table XXIII: Size Information for **pump 1 start/stop**, 1 pump

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
105	5,185	2,216	201,610	738	490,047
110	5,430	2,321	221,110	773	537,582
115	5,675	2,426	241,510	808	587,317
120	5,920	2,531	262,810	843	639,252
125	6,165	2,636	285,010	878	693,387
130	6,410	2,741	308,110	913	749,722
135	6,655	2,846	332,110	948	808,257
140	6,900	2,951	357,010	983	868,992
145	7,145	3,056	382,810	1,018	931,927
150	7,390	3,161	409,510	1,053	997,062
155	7,635	3,266	437,110	1,088	1,064,397
160	7,880	3,371	465,610	1,123	1,133,932
165	8,125	3,476	495,010	1,158	1,205,667
170	8,370	3,581	525,310	1,193	1,279,602
175	8,615	3,686	556,510	1,228	1,355,737
180	8,860	3,791	588,610	1,263	1,434,072
185	9,105	3,896	621,610	1,298	1,514,607
190	9,350	4,001	655,510	1,333	1,597,342
195	9,595	4,106	690,310	1,368	1,682,277
200	9,840	4,211	726,010	1,403	1,769,412
$n > 1$	$49n + 40$	$21n + 11$	$18n^2 + 30n + 10$	$7n + 3$	$44n^2 + 47n + 12$

Table XXIV: Size Information for **pump 1 start/stop**, 2 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	143	54	94	10	186
2	227	92	446	17	971
3	311	130	998	24	1,992
4	395	168	1,774	31	3,377
5	479	206	2,774	38	5,126
6	563	244	3,998	45	7,239
7	647	282	5,446	52	9,716
8	731	320	7,118	59	12,557
9	815	358	9,014	66	15,762
10	899	396	11,134	73	19,331
15	1,319	586	25,094	108	42,636
20	1,739	776	44,654	143	75,041
25	2,159	966	69,814	178	116,546
30	2,579	1,156	100,574	213	167,151
35	2,999	1,346	136,934	248	226,856

Table XXIV: Size Information for **pump 1 start/stop**, 2 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
40	3,419	1,536	178,894	283	295,661
45	3,839	1,726	226,454	318	373,566
50	4,259	1,916	279,614	353	460,571
55	4,679	2,106	338,374	388	556,676
60	5,099	2,296	402,734	423	661,881
65	5,519	2,486	472,694	458	776,186
70	5,939	2,676	548,254	493	899,591
75	6,359	2,866	629,414	528	1,032,096
80	6,779	3,056	716,174	563	1,173,701
85	7,199	3,246	808,534	598	1,324,406
90	7,619	3,436	906,494	633	1,484,211
95	8,039	3,626	1,010,054	668	1,653,116
100	8,459	3,816	1,119,214	703	1,831,121
105	8,879	4,006	1,233,974	738	2,018,226
110	9,299	4,196	1,354,334	773	2,214,431
115	9,719	4,386	1,480,294	808	2,419,736
120	10,139	4,576	1,611,854	843	2,634,141
125	10,559	4,766	1,749,014	878	2,857,646
130	10,979	4,956	1,891,774	913	3,090,251
135	11,399	5,146	2,040,134	948	3,331,956
140	11,819	5,336	2,194,094	983	3,582,761
145	12,239	5,526	2,353,654	1,018	3,842,666
150	12,659	5,716	2,518,814	1,053	4,111,671
155	13,079	5,906	2,689,574	1,088	4,389,776
160	13,499	6,096	2,865,934	1,123	4,676,981
165	13,919	6,286	3,047,894	1,158	4,973,286
170	14,339	6,476	3,235,454	1,193	5,278,691
175	14,759	6,666	3,428,614	1,228	5,593,196
180	15,179	6,856	3,627,374	1,263	5,916,801
185	15,599	7,046	3,831,734	1,298	6,249,506
190	16,019	7,236	4,041,694	1,333	6,591,311
195	16,439	7,426	4,257,254	1,368	6,942,216
200	16,859	7,616	4,478,414	1,403	7,302,221
$n > 1$	$84n + 59$	$38n + 16$	$112n^2 +$ $-8n + 14$	$7n + 3$	$182n^2 +$ $111n + 21$

Table XXV: Size Information for **pump 1 start/stop**, 3 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	197	76	136	10	292
2	316	131	878	17	1,580

Table XXV: Size Information for **pump 1 start/stop**, 3 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
3	435	186	2,118	24	3,258
4	554	241	3,898	31	5,538
5	673	296	6,218	38	8,420
6	792	351	9,078	45	11,904
7	911	406	12,478	52	15,990
8	1,030	461	16,418	59	20,678
9	1,149	516	20,898	66	25,968
10	1,268	571	25,918	73	31,860
15	1,863	846	59,118	108	70,350
20	2,458	1,121	105,818	143	123,890
25	3,053	1,396	166,018	178	192,480
30	3,648	1,671	239,718	213	276,120
35	4,243	1,946	326,918	248	374,810
40	4,838	2,221	427,618	283	488,550
45	5,433	2,496	541,818	318	617,340
50	6,028	2,771	669,518	353	761,180
55	6,623	3,046	810,718	388	920,070
60	7,218	3,321	965,418	423	1,094,010
65	7,813	3,596	1,133,618	458	1,283,000
70	8,408	3,871	1,315,318	493	1,487,040
75	9,003	4,146	1,510,518	528	1,706,130
80	9,598	4,421	1,719,218	563	1,940,270
85	10,193	4,696	1,941,418	598	2,189,460
90	10,788	4,971	2,177,118	633	2,453,700
95	11,383	5,246	2,426,318	668	2,732,990
100	11,978	5,521	2,689,018	703	3,027,330
105	12,573	5,796	2,965,218	738	3,336,720
110	13,168	6,071	3,254,918	773	3,661,160
115	13,763	6,346	3,558,118	808	4,000,650
120	14,358	6,621	3,874,818	843	4,355,190
125	14,953	6,896	4,205,018	878	4,724,780
130	15,548	7,171	4,548,718	913	5,109,420
135	16,143	7,446	4,905,918	948	5,509,110
140	16,738	7,721	5,276,618	983	5,923,850
145	17,333	7,996	5,660,818	1,018	6,353,640
150	17,928	8,271	6,058,518	1,053	6,798,480
155	18,523	8,546	6,469,718	1,088	7,258,370
160	19,118	8,821	6,894,418	1,123	7,733,310
165	19,713	9,096	7,332,618	1,158	8,223,300
170	20,308	9,371	7,784,318	1,193	8,728,340
175	20,903	9,646	8,249,518	1,228	9,248,430
180	21,498	9,921	8,728,218	1,263	9,783,570

Table XXV: Size Information for **pump 1 start/stop**, 3 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
185	22,093	10,196	9,220,418	1,298	10,333,760
190	22,688	10,471	9,726,118	1,333	10,899,000
195	23,283	10,746	10,245,318	1,368	11,479,290
200	23,878	11,021	10,778,018	1,403	12,074,630
$n > 1$	$119n + 78$	$55n + 21$	$270n^2 +$ $-110n + 18$	$7n + 3$	$301n^2 +$ $173n + 30$

Table XXVI: Size Information for **correct change**, 2 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	143	54	98	98	278
2	227	92	370	1,022	7,076
3	311	130	818	2,970	41,164
4	395	168	1,442	5,858	108,449
5	479	206	2,242	9,718	224,576
6	563	244	3,218	14,550	402,721
7	647	282	4,370	20,354	656,060
8	731	320	5,698	27,130	997,769
9	815	358	7,202	34,878	1,441,024
10	899	396	8,882	43,598	1,999,001
15	1,319	586	19,922	101,778	6,970,876
20	1,739	776	35,362	184,258	16,787,201
25	2,159	966	55,202	291,038	33,094,976
30	2,579	1,156	79,442	422,118	57,541,201
35	2,999	1,346	108,082	577,498	91,772,876
40	3,419	1,536	141,122	757,178	137,437,001
45	3,839	1,726	178,562	961,158	196,180,576
46	3,923	1,764	186,578	1,004,870	209,643,761
$n > 2$	$84n + 59$	$38n + 16$	$88n^2 +$ $8n + 2$	$486n^2 +$ $-514n + 138$	$2196n^3 +$ $-1931n^2 +$ $-450n + 601$

Table XXVII: Size Information for **correct change**, 3 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
1	197	76	140	187	567
2	316	131	738	2,638	30,946
3	435	186	1,792	7,647	255,257
4	554	241	3,302	15,122	672,864
5	673	296	5,268	25,117	1,395,485

Table XXVII: Size Information for **correct change**, 3 pumps

Customers	LOC	Nodes	Edges	Tuples	Node-Tuples
6	792	351	7,690	37,632	2,506,280
7	911	406	10,568	52,667	4,088,409
8	1,030	461	13,902	70,222	6,225,032
9	1,149	516	17,692	90,297	8,999,309
10	1,268	571	21,938	112,892	12,494,400
15	1,863	846	50,008	263,667	43,692,665
20	2,458	1,121	89,478	477,442	105,385,280
25	3,053	1,396	140,348	754,217	207,967,245
$n > 2$	$119n + 78$	$55n + 21$	$228n^2 +$ $-86n - 2$	$1260n^2 +$ $-1345n +$ 342	$13860n^3 +$ $-13813n^2 +$ $1478n + 920$

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Table XXVIII: Size Information for **mutual exclusion**, Standard version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
3	79	47	143	39	695
4	104	61	280	39	1,153
5	129	75	449	39	1,611
6	154	89	650	39	2,069
7	179	103	883	39	2,527
8	204	117	1,148	39	2,985
9	229	131	1,445	39	3,443
10	254	145	1,774	39	3,901
15	379	215	3,899	39	6,191
20	504	285	6,824	39	8,481
25	629	355	10,549	39	10,771
30	754	425	15,074	39	13,061
35	879	495	20,399	39	15,351
40	1,004	565	26,524	39	17,641
45	1,129	635	33,449	39	19,931
50	1,254	705	41,174	39	22,221
55	1,379	775	49,699	39	24,511
60	1,504	845	59,024	39	26,801
65	1,629	915	69,149	39	29,091
70	1,754	985	80,074	39	31,381
75	1,879	1,055	91,799	39	33,671
80	2,004	1,125	104,324	39	35,961
85	2,129	1,195	117,649	39	38,251
90	2,254	1,265	131,774	39	40,541

Table XXVIII: Size Information for **mutual exclusion**, Standard version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
95	2,379	1,335	146,699	39	42,831
100	2,504	1,405	162,424	39	45,121
105	2,629	1,475	178,949	39	47,411
110	2,754	1,545	196,274	39	49,701
115	2,879	1,615	214,399	39	51,991
120	3,004	1,685	233,324	39	54,281
125	3,129	1,755	253,049	39	56,571
130	3,254	1,825	273,574	39	58,861
135	3,379	1,895	294,899	39	61,151
140	3,504	1,965	317,024	39	63,441
145	3,629	2,035	339,949	39	65,731
150	3,754	2,105	363,674	39	68,021
155	3,879	2,175	388,199	39	70,311
160	4,004	2,245	413,524	39	72,601
165	4,129	2,315	439,649	39	74,891
170	4,254	2,385	466,574	39	77,181
175	4,379	2,455	494,299	39	79,471
180	4,504	2,525	522,824	39	81,761
185	4,629	2,595	552,149	39	84,051
190	4,754	2,665	582,274	39	86,341
195	4,879	2,735	613,199	39	88,631
200	5,004	2,805	644,924	39	90,921
n	$25n + 4$	$14n + 5$	$16n^2 + 25n - 76$	39	$458n - 679$

Table XXIX: Size Information for **no fork 1 up twice**, Standard version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
3	79	45	125	6	150
4	104	59	230	6	212
5	129	73	367	6	274
6	154	87	536	6	336
7	179	101	737	6	398
8	204	115	970	6	460
9	229	129	1,235	6	522
10	254	143	1,532	6	584
15	379	213	3,497	6	894
20	504	283	6,262	6	1,204
25	629	353	9,827	6	1,514
30	754	423	14,192	6	1,824

Table XXIX: Size Information for **no fork 1 up twice**, Standard version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
35	879	493	19,357	6	2,134
40	1,004	563	25,322	6	2,444
45	1,129	633	32,087	6	2,754
50	1,254	703	39,652	6	3,064
55	1,379	773	48,017	6	3,374
60	1,504	843	57,182	6	3,684
65	1,629	913	67,147	6	3,994
70	1,754	983	77,912	6	4,304
75	1,879	1,053	89,477	6	4,614
80	2,004	1,123	101,842	6	4,924
85	2,129	1,193	115,007	6	5,234
90	2,254	1,263	128,972	6	5,544
95	2,379	1,333	143,737	6	5,854
100	2,504	1,403	159,302	6	6,164
105	2,629	1,473	175,667	6	6,474
110	2,754	1,543	192,832	6	6,784
115	2,879	1,613	210,797	6	7,094
120	3,004	1,683	229,562	6	7,404
125	3,129	1,753	249,127	6	7,714
130	3,254	1,823	269,492	6	8,024
135	3,379	1,893	290,657	6	8,334
140	3,504	1,963	312,622	6	8,644
145	3,629	2,033	335,387	6	8,954
150	3,754	2,103	358,952	6	9,264
155	3,879	2,173	383,317	6	9,574
160	4,004	2,243	408,482	6	9,884
165	4,129	2,313	434,447	6	10,194
170	4,254	2,383	461,212	6	10,504
175	4,379	2,453	488,777	6	10,814
180	4,504	2,523	517,142	6	11,124
185	4,629	2,593	546,307	6	11,434
190	4,754	2,663	576,272	6	11,744
195	4,879	2,733	607,037	6	12,054
200	5,004	2,803	638,602	6	12,364
n	$25n + 4$	$14n + 3$	$16n^2 - 7n + 2$	6	$62n - 36$

Table XXX: Size Information for **mutual exclusion**, Fork Manager version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
2	82	28	103	71	123
3	112	34	166	103	262
4	142	40	197	135	393
5	172	46	228	167	524
6	202	52	259	199	655
7	232	58	290	231	786
8	262	64	321	263	917
9	292	70	352	295	1,048
10	322	76	383	327	1,179
15	472	106	538	487	1,834
20	622	136	693	647	2,489
25	772	166	848	807	3,144
30	922	196	1,003	967	3,799
35	1,072	226	1,158	1,127	4,454
40	1,222	256	1,313	1,287	5,109
45	1,372	286	1,468	1,447	5,764
50	1,522	316	1,623	1,607	6,419
55	1,672	346	1,778	1,767	7,074
60	1,822	376	1,933	1,927	7,729
65	1,972	406	2,088	2,087	8,384
70	2,122	436	2,243	2,247	9,039
75	2,272	466	2,398	2,407	9,694
80	2,422	496	2,553	2,567	10,349
85	2,572	526	2,708	2,727	11,004
90	2,722	556	2,863	2,887	11,659
95	2,872	586	3,018	3,047	12,314
100	3,022	616	3,173	3,207	12,969
105	3,172	646	3,328	3,367	13,624
110	3,322	676	3,483	3,527	14,279
115	3,472	706	3,638	3,687	14,934
120	3,622	736	3,793	3,847	15,589
125	3,772	766	3,948	4,007	16,244
130	3,922	796	4,103	4,167	16,899
135	4,072	826	4,258	4,327	17,554
140	4,222	856	4,413	4,487	18,209
145	4,372	886	4,568	4,647	18,864
150	4,522	916	4,723	4,807	19,519
155	4,672	946	4,878	4,967	20,174
160	4,822	976	5,033	5,127	20,829
165	4,972	1,006	5,188	5,287	21,484
170	5,122	1,036	5,343	5,447	22,139

Table XXX: Size Information for **mutual exclusion**, Fork Manager version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
175	5,272	1,066	5,498	5,607	22,794
180	5,422	1,096	5,653	5,767	23,449
185	5,572	1,126	5,808	5,927	24,104
190	5,722	1,156	5,963	6,087	24,759
195	5,872	1,186	6,118	6,247	25,414
200	6,022	1,216	6,273	6,407	26,069
$n > 2$	$30n + 22$	$6n + 16$	$31n + 73$	$32n + 7$	$131n - 131$

Table XXXI: Size Information for **no fork 1 up twice**, Fork Manager version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
2	82	30	49	20	39
3	112	36	64	24	56
4	142	42	79	28	73
5	172	48	94	32	90
6	202	54	109	36	107
7	232	60	124	40	124
8	262	66	139	44	141
9	292	72	154	48	158
10	322	78	169	52	175
15	472	108	244	72	260
20	622	138	319	92	345
25	772	168	394	112	430
30	922	198	469	132	515
35	1,072	228	544	152	600
40	1,222	258	619	172	685
45	1,372	288	694	192	770
50	1,522	318	769	212	855
55	1,672	348	844	232	940
60	1,822	378	919	252	1,025
65	1,972	408	994	272	1,110
70	2,122	438	1,069	292	1,195
75	2,272	468	1,144	312	1,280
80	2,422	498	1,219	332	1,365
85	2,572	528	1,294	352	1,450
90	2,722	558	1,369	372	1,535
95	2,872	588	1,444	392	1,620
100	3,022	618	1,519	412	1,705
105	3,172	648	1,594	432	1,790

Table XXXI: Size Information for **no fork 1 up twice**, Fork Manager version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
110	3,322	678	1,669	452	1,875
115	3,472	708	1,744	472	1,960
120	3,622	738	1,819	492	2,045
125	3,772	768	1,894	512	2,130
130	3,922	798	1,969	532	2,215
135	4,072	828	2,044	552	2,300
140	4,222	858	2,119	572	2,385
145	4,372	888	2,194	592	2,470
150	4,522	918	2,269	612	2,555
155	4,672	948	2,344	632	2,640
160	4,822	978	2,419	652	2,725
165	4,972	1,008	2,494	672	2,810
170	5,122	1,038	2,569	692	2,895
175	5,272	1,068	2,644	712	2,980
180	5,422	1,098	2,719	732	3,065
185	5,572	1,128	2,794	752	3,150
190	5,722	1,158	2,869	772	3,235
195	5,872	1,188	2,944	792	3,320
200	6,022	1,218	3,019	812	3,405
n	$30n + 22$	$6n + 18$	$15n + 19$	$4n + 12$	$17n + 5$

Table XXXII: Size Information for **mutual exclusion**, Dictionary version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
2	71	40	75	38	130
3	104	57	208	95	1,790
4	137	74	409	95	3,282
5	170	91	658	95	4,694
6	203	108	955	95	6,106
7	236	125	1,300	95	7,518
8	269	142	1,693	95	8,930
9	302	159	2,134	95	10,342
10	335	176	2,623	95	11,754
15	500	261	5,788	95	18,814
20	665	346	10,153	95	25,874
25	830	431	15,718	95	32,934
30	995	516	22,483	95	39,994
35	1,160	601	30,448	95	47,054
40	1,325	686	39,613	95	54,114

Table XXXII: Size Information for **mutual exclusion**, Dictionary version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
45	1,490	771	49,978	95	61,174
50	1,655	856	61,543	95	68,234
55	1,820	941	74,308	95	75,294
60	1,985	1,026	88,273	95	82,354
65	2,150	1,111	103,438	95	89,414
70	2,315	1,196	119,803	95	96,474
75	2,480	1,281	137,368	95	103,534
80	2,645	1,366	156,133	95	110,594
85	2,810	1,451	176,098	95	117,654
90	2,975	1,536	197,263	95	124,714
95	3,140	1,621	219,628	95	131,774
100	3,305	1,706	243,193	95	138,834
105	3,470	1,791	267,958	95	145,894
110	3,635	1,876	293,923	95	152,954
115	3,800	1,961	321,088	95	160,014
120	3,965	2,046	349,453	95	167,074
125	4,130	2,131	379,018	95	174,134
130	4,295	2,216	409,783	95	181,194
135	4,460	2,301	441,748	95	188,254
140	4,625	2,386	474,913	95	195,314
145	4,790	2,471	509,278	95	202,374
150	4,955	2,556	544,843	95	209,434
155	5,120	2,641	581,608	95	216,494
160	5,285	2,726	619,573	95	223,554
165	5,450	2,811	658,738	95	230,614
170	5,615	2,896	699,103	95	237,674
175	5,780	2,981	740,668	95	244,734
180	5,945	3,066	783,433	95	251,794
185	6,110	3,151	827,398	95	258,854
190	6,275	3,236	872,563	95	265,914
195	6,440	3,321	918,928	95	272,974
200	6,605	3,406	966,493	95	280,034
$n > 3$	$33n + 5$	$17n + 6$	$24n^2 + 33n - 107$	95	$1412n - 2366$

Table XXXIII: Size Information for **no fork 1 up twice**, Dictionary version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
2	71	38	73	6	127

Table XXXIII: Size Information for **no fork 1 up twice**, Dictionary version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
3	104	55	182	6	204
4	137	72	343	6	281
5	170	89	552	6	358
6	203	106	809	6	435
7	236	123	1,114	6	512
8	269	140	1,467	6	589
9	302	157	1,868	6	666
10	335	174	2,317	6	743
15	500	259	5,282	6	1,128
20	665	344	9,447	6	1,513
25	830	429	14,812	6	1,898
30	995	514	21,377	6	2,283
35	1,160	599	29,142	6	2,668
40	1,325	684	38,107	6	3,053
45	1,490	769	48,272	6	3,438
50	1,655	854	59,637	6	3,823
55	1,820	939	72,202	6	4,208
60	1,985	1,024	85,967	6	4,593
65	2,150	1,109	100,932	6	4,978
70	2,315	1,194	117,097	6	5,363
75	2,480	1,279	134,462	6	5,748
80	2,645	1,364	153,027	6	6,133
85	2,810	1,449	172,792	6	6,518
90	2,975	1,534	193,757	6	6,903
95	3,140	1,619	215,922	6	7,288
100	3,305	1,704	239,287	6	7,673
105	3,470	1,789	263,852	6	8,058
110	3,635	1,874	289,617	6	8,443
115	3,800	1,959	316,582	6	8,828
120	3,965	2,044	344,747	6	9,213
125	4,130	2,129	374,112	6	9,598
130	4,295	2,214	404,677	6	9,983
135	4,460	2,299	436,442	6	10,368
140	4,625	2,384	469,407	6	10,753
145	4,790	2,469	503,572	6	11,138
150	4,955	2,554	538,937	6	11,523
155	5,120	2,639	575,502	6	11,908
160	5,285	2,724	613,267	6	12,293
165	5,450	2,809	652,232	6	12,678
170	5,615	2,894	692,397	6	13,063
175	5,780	2,979	733,762	6	13,448

Table XXXIII: Size Information for **no fork 1 up twice**, Dictionary version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
180	5,945	3,064	776,327	6	13,833
185	6,110	3,149	820,092	6	14,218
190	6,275	3,234	865,057	6	14,603
195	6,440	3,319	911,222	6	14,988
200	6,605	3,404	958,587	6	15,373
$n > 2$	$33n + 5$	$17n + 4$	$24n^2 - 7n - 13$	6	$77n - 27$

Table XXXIV: Size Information for **mutual exclusion**, Host version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
2	87	44	132	87	445
3	114	62	305	87	2,118
4	141	80	564	87	3,496
5	168	98	887	87	4,874
6	195	116	1,274	87	6,252
7	222	134	1,725	87	7,630
8	249	152	2,240	87	9,008
9	276	170	2,819	87	10,386
10	303	188	3,462	87	11,764
15	438	278	7,637	87	18,654
20	573	368	13,412	87	25,544
25	708	458	20,787	87	32,434
30	843	548	29,762	87	39,324
35	978	638	40,337	87	46,214
40	1,113	728	52,512	87	53,104
45	1,248	818	66,287	87	59,994
50	1,383	908	81,662	87	66,884
55	1,518	998	98,637	87	73,774
60	1,653	1,088	117,212	87	80,664
65	1,788	1,178	137,387	87	87,554
70	1,923	1,268	159,162	87	94,444
75	2,058	1,358	182,537	87	101,334
80	2,193	1,448	207,512	87	108,224
85	2,328	1,538	234,087	87	115,114
90	2,463	1,628	262,262	87	122,004
95	2,598	1,718	292,037	87	128,894
100	2,733	1,808	323,412	87	135,784
105	2,868	1,898	356,387	87	142,674
110	3,003	1,988	390,962	87	149,564

Table XXXIV: Size Information for **mutual exclusion**, Host version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
115	3,138	2,078	427,137	87	156,454
120	3,273	2,168	464,912	87	163,344
125	3,408	2,258	504,287	87	170,234
130	3,543	2,348	545,262	87	177,124
135	3,678	2,438	587,837	87	184,014
140	3,813	2,528	632,012	87	190,904
145	3,948	2,618	677,787	87	197,794
150	4,083	2,708	725,162	87	204,684
155	4,218	2,798	774,137	87	211,574
160	4,353	2,888	824,712	87	218,464
165	4,488	2,978	876,887	87	225,354
170	4,623	3,068	930,662	87	232,244
175	4,758	3,158	986,037	87	239,134
180	4,893	3,248	1,043,012	87	246,024
185	5,028	3,338	1,101,587	87	252,914
190	5,163	3,428	1,161,762	87	259,804
195	5,298	3,518	1,223,537	87	266,694
200	5,433	3,608	1,286,912	87	273,584
$n > 2$	$27n + 33$	$18n + 8$	$32n^2 + 35n - 88$	87	$1378n - 2016$

Table XXXV: Size Information for **no fork 1 up twice**, Host version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
2	87	42	114	6	139
3	114	60	255	6	221
4	141	78	466	6	303
5	168	96	741	6	385
6	195	114	1,080	6	467
7	222	132	1,483	6	549
8	249	150	1,950	6	631
9	276	168	2,481	6	713
10	303	186	3,076	6	795
15	438	276	7,011	6	1,205
20	573	366	12,546	6	1,615
25	708	456	19,681	6	2,025
30	843	546	28,416	6	2,435
35	978	636	38,751	6	2,845
40	1,113	726	50,686	6	3,255
45	1,248	816	64,221	6	3,665

Table XXXV: Size Information for **no fork 1 up twice**, Host version

Philosophers	LOC	Nodes	Edges	Tuples	Node-Tuples
50	1,383	906	79,356	6	4,075
55	1,518	996	96,091	6	4,485
60	1,653	1,086	114,426	6	4,895
65	1,788	1,176	134,361	6	5,305
70	1,923	1,266	155,896	6	5,715
75	2,058	1,356	179,031	6	6,125
80	2,193	1,446	203,766	6	6,535
85	2,328	1,536	230,101	6	6,945
90	2,463	1,626	258,036	6	7,355
95	2,598	1,716	287,571	6	7,765
100	2,733	1,806	318,706	6	8,175
105	2,868	1,896	351,441	6	8,585
110	3,003	1,986	385,776	6	8,995
115	3,138	2,076	421,711	6	9,405
120	3,273	2,166	459,246	6	9,815
125	3,408	2,256	498,381	6	10,225
130	3,543	2,346	539,116	6	10,635
135	3,678	2,436	581,451	6	11,045
140	3,813	2,526	625,386	6	11,455
145	3,948	2,616	670,921	6	11,865
150	4,083	2,706	718,056	6	12,275
155	4,218	2,796	766,791	6	12,685
160	4,353	2,886	817,126	6	13,095
165	4,488	2,976	869,061	6	13,505
170	4,623	3,066	922,596	6	13,915
175	4,758	3,156	977,731	6	14,325
180	4,893	3,246	1,034,466	6	14,735
185	5,028	3,336	1,092,801	6	15,145
190	5,163	3,426	1,152,736	6	15,555
195	5,298	3,516	1,214,271	6	15,965
200	5,433	3,606	1,277,406	6	16,375
$n > 2$	$27n + 33$	$18n + 6$	$32n^2 - 13n + 6$	6	$82n - 25$

B.4 Chiron

Table XXXVI: Size Information for **p01**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
2	556	96	278	24	851
3	785	121	378	30	1,361
4	1,016	152	494	39	2,234

Table XXXVI: Size Information for p01

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
5	1,245	177	594	48	3,131
6	1,474	202	694	54	4,055
7	1,705	233	810	63	5,486
8	1,934	258	910	72	6,851
9	2,163	283	1,010	78	8,189
10	2,393	314	1,126	87	10,178
11	2,624	339	1,226	96	12,011
12	2,853	364	1,326	102	13,763
13	3,084	395	1,442	111	16,310
14	3,313	420	1,542	120	18,611
15	3,542	445	1,642	126	20,777
16	3,773	476	1,758	135	23,882
17	4,002	501	1,858	144	26,651
18	4,231	526	1,958	150	29,231
19	4,462	557	2,074	159	32,894
20	4,690	582	2,174	168	36,131
21	4,921	607	2,274	174	39,125
22	5,152	638	2,390	183	43,346
23	5,381	663	2,490	192	47,051
24	5,610	688	2,590	198	50,459
25	5,841	719	2,706	207	55,238
26	6,070	744	2,806	216	59,411
27	6,299	769	2,906	222	63,233
28	6,530	800	3,022	231	68,570
29	6,759	825	3,122	240	73,211
30	6,987	850	3,222	246	77,447
31	7,220	881	3,338	255	83,342
32	7,449	906	3,438	264	88,451
33	7,678	931	3,538	270	93,101
34	7,909	962	3,654	279	99,554
35	8,138	987	3,754	288	105,131
36	8,367	1,012	3,854	294	110,195
37	8,598	1,043	3,970	303	117,206
38	8,827	1,068	4,070	312	123,251
39	9,056	1,093	4,170	318	128,729
40	9,286	1,124	4,286	327	136,298
41	9,517	1,149	4,386	336	142,811
42	9,746	1,174	4,486	342	148,703
43	9,977	1,205	4,602	351	156,830
44	10,206	1,230	4,702	360	163,811
45	10,435	1,255	4,802	366	170,117
46	10,666	1,286	4,918	375	178,802

Table XXXVI: Size Information for **p01**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
47	10,895	1,311	5,018	384	186,251
48	11,124	1,336	5,118	390	192,971
49	11,355	1,367	5,234	399	202,214
50	11,583	1,392	5,334	408	210,131
51	11,814	1,417	5,434	414	217,265
52	12,045	1,448	5,550	423	227,066
53	12,274	1,473	5,650	432	235,451
$n \bmod 3 \equiv 0$		$27n + 40$	$105n + 62$	$8n + 6$	$80n^2 + 178n + 107$
$n \bmod 3 \equiv 1$		$27n + 44$	$105n + 72$	$8n + 7$	$80n^2 + 204n + 138$
$n \bmod 3 \equiv 2$		$27n + 42$	$105n + 67$	$8n + 8$	$80n^2 + 200n + 131$

Table XXXVII: Size Information for **p02**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
2	556	162	457	575	7,673
3	785	187	557	830	11,393
4	1,016	218	673	1,130	16,043
5	1,245	243	773	1,385	19,808
6	1,474	268	873	1,640	23,528
7	1,705	299	989	1,940	28,178
8	1,934	324	1,089	2,195	31,943
9	2,163	349	1,189	2,450	35,663
10	2,393	380	1,305	2,750	40,313
11	2,624	405	1,405	3,005	44,078
12	2,853	430	1,505	3,260	47,798
13	3,084	461	1,621	3,560	52,448
14	3,313	486	1,721	3,815	56,213
15	3,542	511	1,821	4,070	59,933
16	3,773	542	1,937	4,370	64,583
17	4,002	567	2,037	4,625	68,348
18	4,231	592	2,137	4,880	72,068
19	4,462	623	2,253	5,180	76,718
20	4,690	648	2,353	5,435	80,483
21	4,921	673	2,453	5,690	84,203
22	5,152	704	2,569	5,990	88,853
23	5,381	729	2,669	6,245	92,618
24	5,610	754	2,769	6,500	96,338
25	5,841	785	2,885	6,800	100,988
26	6,070	810	2,985	7,055	104,753
27	6,299	835	3,085	7,310	108,473
28	6,530	866	3,201	7,610	113,123

Table XXXVII: Size Information for **p02**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
29	6,759	891	3,301	7,865	116,888
30	6,987	916	3,401	8,120	120,608
31	7,220	947	3,517	8,420	125,258
32	7,449	972	3,617	8,675	129,023
33	7,678	997	3,717	8,930	132,743
34	7,909	1,028	3,833	9,230	137,393
35	8,138	1,053	3,933	9,485	141,158
36	8,367	1,078	4,033	9,740	144,878
37	8,598	1,109	4,149	10,040	149,528
38	8,827	1,134	4,249	10,295	153,293
39	9,056	1,159	4,349	10,550	157,013
40	9,286	1,190	4,465	10,850	161,663
41	9,517	1,215	4,565	11,105	165,428
42	9,746	1,240	4,665	11,360	169,148
43	9,977	1,271	4,781	11,660	173,798
44	10,206	1,296	4,881	11,915	177,563
45	10,435	1,321	4,981	12,170	181,283
46	10,666	1,352	5,097	12,470	185,933
47	10,895	1,377	5,197	12,725	189,698
48	11,124	1,402	5,297	12,980	193,418
49	11,355	1,433	5,413	13,280	198,068
50	11,583	1,458	5,513	13,535	201,833
51	11,814	1,483	5,613	13,790	205,553
52	12,045	1,514	5,729	14,090	210,203
53	12,274	1,539	5,829	14,345	213,968
$n \bmod 3 \equiv 0$		$27n + 106$	$105n + 241$	$270n + 20$	$4045n - 742$
$n \bmod 3 \equiv 1$		$27n + 110$	$105n + 251$	$270n + 50$	$4045n - 137$
$n \bmod 3 \equiv 2$		$27n + 108$	$105n + 246$	$270n + 35$	$4045n - 417$

Table XXXVIII: Size Information for **p03**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
2	556	96	278	63	974
3	785	121	378	97	1,470
4	1,016	152	494	137	2,090
5	1,245	177	594	171	2,592
6	1,474	202	694	205	3,088
7	1,705	233	810	245	3,708
8	1,934	258	910	279	4,210
9	2,163	283	1,010	313	4,706
10	2,393	314	1,126	353	5,326

Table XXXVIII: Size Information for **p03**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
11	2,624	339	1,226	387	5,828
12	2,853	364	1,326	421	6,324
13	3,084	395	1,442	461	6,944
14	3,313	420	1,542	495	7,446
15	3,542	445	1,642	529	7,942
16	3,773	476	1,758	569	8,562
17	4,002	501	1,858	603	9,064
18	4,231	526	1,958	637	9,560
19	4,462	557	2,074	677	10,180
20	4,690	582	2,174	711	10,682
21	4,921	607	2,274	745	11,178
22	5,152	638	2,390	785	11,798
23	5,381	663	2,490	819	12,300
24	5,610	688	2,590	853	12,796
25	5,841	719	2,706	893	13,416
26	6,070	744	2,806	927	13,918
27	6,299	769	2,906	961	14,414
28	6,530	800	3,022	1,001	15,034
29	6,759	825	3,122	1,035	15,536
30	6,987	850	3,222	1,069	16,032
31	7,220	881	3,338	1,109	16,652
32	7,449	906	3,438	1,143	17,154
33	7,678	931	3,538	1,177	17,650
34	7,909	962	3,654	1,217	18,270
35	8,138	987	3,754	1,251	18,772
36	8,367	1,012	3,854	1,285	19,268
37	8,598	1,043	3,970	1,325	19,888
38	8,827	1,068	4,070	1,359	20,390
39	9,056	1,093	4,170	1,393	20,886
40	9,286	1,124	4,286	1,433	21,506
41	9,517	1,149	4,386	1,467	22,008
42	9,746	1,174	4,486	1,501	22,504
43	9,977	1,205	4,602	1,541	23,124
44	10,206	1,230	4,702	1,575	23,626
45	10,435	1,255	4,802	1,609	24,122
46	10,666	1,286	4,918	1,649	24,742
47	10,895	1,311	5,018	1,683	25,244
48	11,124	1,336	5,118	1,717	25,740
49	11,355	1,367	5,234	1,757	26,360
50	11,583	1,392	5,334	1,791	26,862
51	11,814	1,417	5,434	1,825	27,358
52	12,045	1,448	5,550	1,865	27,978

Table XXXVIII: Size Information for **p03**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
53	12,274	1,473	5,650	1,899	28,480

Table XXXIX: Size Information for **p04**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
2	556	96	278	49	785
3	785	121	378	83	1,281
4	1,016	152	494	123	1,901
5	1,245	177	594	157	2,403
6	1,474	202	694	191	2,899
7	1,705	233	810	231	3,519
8	1,934	258	910	265	4,021
9	2,163	283	1,010	299	4,517
10	2,393	314	1,126	339	5,137
11	2,624	339	1,226	373	5,639
12	2,853	364	1,326	407	6,135
13	3,084	395	1,442	447	6,755
14	3,313	420	1,542	481	7,257
15	3,542	445	1,642	515	7,753
16	3,773	476	1,758	555	8,373
17	4,002	501	1,858	589	8,875
18	4,231	526	1,958	623	9,371
19	4,462	557	2,074	663	9,991
20	4,690	582	2,174	697	10,493
21	4,921	607	2,274	731	10,989
22	5,152	638	2,390	771	11,609
23	5,381	663	2,490	805	12,111
24	5,610	688	2,590	839	12,607
25	5,841	719	2,706	879	13,227
26	6,070	744	2,806	913	13,729
27	6,299	769	2,906	947	14,225
28	6,530	800	3,022	987	14,845
29	6,759	825	3,122	1,021	15,347
30	6,987	850	3,222	1,055	15,843
31	7,220	881	3,338	1,095	16,463
32	7,449	906	3,438	1,129	16,965
33	7,678	931	3,538	1,163	17,461
34	7,909	962	3,654	1,203	18,081
35	8,138	987	3,754	1,237	18,583
36	8,367	1,012	3,854	1,271	19,079
37	8,598	1,043	3,970	1,311	19,699

Table XXXIX: Size Information for **p04**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
38	8,827	1,068	4,070	1,345	20,201
39	9,056	1,093	4,170	1,379	20,697
40	9,286	1,124	4,286	1,419	21,317
41	9,517	1,149	4,386	1,453	21,819
42	9,746	1,174	4,486	1,487	22,315
43	9,977	1,205	4,602	1,527	22,935
44	10,206	1,230	4,702	1,561	23,437
45	10,435	1,255	4,802	1,595	23,933
46	10,666	1,286	4,918	1,635	24,553
47	10,895	1,311	5,018	1,669	25,055
48	11,124	1,336	5,118	1,703	25,551
49	11,355	1,367	5,234	1,743	26,171
50	11,583	1,392	5,334	1,777	26,673
51	11,814	1,417	5,434	1,811	27,169
52	12,045	1,448	5,550	1,851	27,789
53	12,274	1,473	5,650	1,885	28,291

Table XL: Size Information for **p05**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
2	556	96	278	425	4,511
3	785	121	378	761	9,198
4	1,016	152	494	1,301	18,561
5	1,245	177	594	1,844	29,924
6	1,474	202	694	2,486	44,218
7	1,705	233	810	3,404	68,057
8	1,934	258	910	4,253	93,517
9	2,163	283	1,010	5,201	122,554
10	2,393	314	1,126	6,497	167,445
11	2,624	339	1,226	7,652	212,570
12	2,853	364	1,326	8,906	261,486
13	3,084	395	1,442	10,580	334,005
14	3,313	420	1,542	12,041	404,363
15	3,542	445	1,642	13,601	478,294
16	3,773	476	1,758	15,653	585,017
17	4,002	501	1,858	17,420	686,176
18	4,231	526	1,958	19,286	790,258
19	4,462	557	2,074	21,716	937,761
20	4,690	582	2,174	23,789	1,075,289
21	4,921	607	2,274	25,961	1,214,658
22	5,152	638	2,390	28,769	1,409,517

Table XL: Size Information for **p05**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
23	5,381	663	2,490	31,148	1,588,982
24	5,610	688	2,590	33,626	1,768,774
25	5,841	719	2,706	36,812	2,017,565
26	6,070	744	2,806	39,497	2,244,535
27	6,299	769	2,906	42,281	2,469,886
28	6,530	800	3,022	45,845	2,779,185
29	6,759	825	3,122	48,836	3,059,228
30	6,987	850	3,222	51,926	3,335,274
31	7,220	881	3,338	55,868	3,711,657
32	7,449	906	3,438	59,165	4,050,341
33	7,678	931	3,538	62,561	4,382,218
34	7,909	962	3,654	66,881	4,832,261
35	8,138	987	3,754	70,484	5,235,154
36	8,367	1,012	3,854	74,186	5,627,998
37	8,598	1,043	3,970	78,884	6,158,277
38	8,827	1,068	4,070	82,793	6,630,947
39	9,056	1,093	4,170	86,801	7,089,894
40	9,286	1,124	4,286	91,877	7,706,985
41	9,517	1,149	4,386	96,092	8,255,000
42	9,746	1,174	4,486	100,406	8,785,186
43	9,977	1,205	4,602	105,860	9,495,665
44	10,206	1,230	4,702	110,381	10,124,593
45	10,435	1,255	4,802	115,001	10,731,154
46	10,666	1,286	4,918	120,833	11,541,597
47	10,895	1,311	5,018	125,660	12,257,006
48	11,124	1,336	5,118	130,586	12,945,078
49	11,355	1,367	5,234	136,796	13,862,061
50	11,583	1,392	5,334	141,929	14,669,519
51	11,814	1,417	5,434	147,161	15,444,238
52	12,045	1,448	5,550	153,749	16,474,337
53	12,274	1,473	5,650	159,188	17,379,412

Table XLI: Size Information for **p06**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
2	556	96	278	24	851
3	785	121	378	30	1,361
4	1,016	152	494	39	2,234
5	1,245	177	594	48	3,131
6	1,474	202	694	54	4,055
7	1,705	233	810	63	5,486

Table XLI: Size Information for **p06**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
8	1,934	258	910	72	6,851
9	2,163	283	1,010	78	8,189
10	2,393	314	1,126	87	10,178
11	2,624	339	1,226	96	12,011
12	2,853	364	1,326	102	13,763
13	3,084	395	1,442	111	16,310
14	3,313	420	1,542	120	18,611
15	3,542	445	1,642	126	20,777
16	3,773	476	1,758	135	23,882
17	4,002	501	1,858	144	26,651
18	4,231	526	1,958	150	29,231
19	4,462	557	2,074	159	32,894
20	4,690	582	2,174	168	36,131
21	4,921	607	2,274	174	39,125
22	5,152	638	2,390	183	43,346
23	5,381	663	2,490	192	47,051
24	5,610	688	2,590	198	50,459
25	5,841	719	2,706	207	55,238
26	6,070	744	2,806	216	59,411
27	6,299	769	2,906	222	63,233
28	6,530	800	3,022	231	68,570
29	6,759	825	3,122	240	73,211
30	6,987	850	3,222	246	77,447
31	7,220	881	3,338	255	83,342
32	7,449	906	3,438	264	88,451
33	7,678	931	3,538	270	93,101
34	7,909	962	3,654	279	99,554
35	8,138	987	3,754	288	105,131
36	8,367	1,012	3,854	294	110,195
37	8,598	1,043	3,970	303	117,206
38	8,827	1,068	4,070	312	123,251
39	9,056	1,093	4,170	318	128,729
40	9,286	1,124	4,286	327	136,298
41	9,517	1,149	4,386	336	142,811
42	9,746	1,174	4,486	342	148,703
43	9,977	1,205	4,602	351	156,830
44	10,206	1,230	4,702	360	163,811
45	10,435	1,255	4,802	366	170,117
46	10,666	1,286	4,918	375	178,802
47	10,895	1,311	5,018	384	186,251
48	11,124	1,336	5,118	390	192,971
49	11,355	1,367	5,234	399	202,214

Table XLI: Size Information for **p06**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
50	11,583	1,392	5,334	408	210,131
51	11,814	1,417	5,434	414	217,265
52	12,045	1,448	5,550	423	227,066
53	12,274	1,473	5,650	432	235,451
$n \bmod 3 \equiv 0$		$27n + 40$	$105n + 62$	$8n + 6$	$80n^2 + 178n + 107$
$n \bmod 3 \equiv 1$		$27n + 44$	$105n + 72$	$8n + 7$	$80n^2 + 204n + 138$
$n \bmod 3 \equiv 2$		$27n + 42$	$105n + 67$	$8n + 8$	$80n^2 + 200n + 131$

Table XLII: Size Information for **p07**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
2	556	147	425	354	4,927
3	785	172	525	507	7,159
4	1,016	203	641	687	9,949
5	1,245	228	741	840	12,208
6	1,474	253	841	993	14,440
7	1,705	284	957	1,173	17,230
8	1,934	309	1,057	1,326	19,489
9	2,163	334	1,157	1,479	21,721
10	2,393	365	1,273	1,659	24,511
11	2,624	390	1,373	1,812	26,770
12	2,853	415	1,473	1,965	29,002
13	3,084	446	1,589	2,145	31,792
14	3,313	471	1,689	2,298	34,051
15	3,542	496	1,789	2,451	36,283
16	3,773	527	1,905	2,631	39,073
17	4,002	552	2,005	2,784	41,332
18	4,231	577	2,105	2,937	43,564
19	4,462	608	2,221	3,117	46,354
20	4,690	633	2,321	3,270	48,613
21	4,921	658	2,421	3,423	50,845
22	5,152	689	2,537	3,603	53,635
23	5,381	714	2,637	3,756	55,894
24	5,610	739	2,737	3,909	58,126
25	5,841	770	2,853	4,089	60,916
26	6,070	795	2,953	4,242	63,175
27	6,299	820	3,053	4,395	65,407
28	6,530	851	3,169	4,575	68,197
29	6,759	876	3,269	4,728	70,456
30	6,987	901	3,369	4,881	72,688
31	7,220	932	3,485	5,061	75,478

Table XLII: Size Information for **p07**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
32	7,449	957	3,585	5,214	77,737
33	7,678	982	3,685	5,367	79,969
34	7,909	1,013	3,801	5,547	82,759
35	8,138	1,038	3,901	5,700	85,018
36	8,367	1,063	4,001	5,853	87,250
37	8,598	1,094	4,117	6,033	90,040
38	8,827	1,119	4,217	6,186	92,299
39	9,056	1,144	4,317	6,339	94,531
40	9,286	1,175	4,433	6,519	97,321
41	9,517	1,200	4,533	6,672	99,580
42	9,746	1,225	4,633	6,825	101,812
43	9,977	1,256	4,749	7,005	104,602
44	10,206	1,281	4,849	7,158	106,861
45	10,435	1,306	4,949	7,311	109,093
46	10,666	1,337	5,065	7,491	111,883
47	10,895	1,362	5,165	7,644	114,142
48	11,124	1,387	5,265	7,797	116,374
49	11,355	1,418	5,381	7,977	119,164
50	11,583	1,443	5,481	8,130	121,423
51	11,814	1,468	5,581	8,283	123,655
52	12,045	1,499	5,697	8,463	126,445
53	12,274	1,524	5,797	8,616	128,704
$n \bmod 3 \equiv 0$		$27n + 91$	$105n + 209$	$162n + 21$	$2427n - 122$
$n \bmod 3 \equiv 1$		$27n + 95$	$105n + 219$	$162n + 39$	$2427n + 241$
$n \bmod 3 \equiv 2$		$27n + 93$	$105n + 214$	$162n + 30$	$2427n + 73$

Table XLIII: Size Information for **p08**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
2	556	164	459	575	7,673
3	785	189	559	830	11,393
4	1,016	220	675	1,130	16,043
5	1,245	245	775	1,385	19,808
6	1,474	270	875	1,640	23,528
7	1,705	301	991	1,940	28,178
8	1,934	326	1,091	2,195	31,943
9	2,163	351	1,191	2,450	35,663
10	2,393	382	1,307	2,750	40,313
11	2,624	407	1,407	3,005	44,078
12	2,853	432	1,507	3,260	47,798
13	3,084	463	1,623	3,560	52,448

Table XLIII: Size Information for **p08**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
14	3,313	488	1,723	3,815	56,213
15	3,542	513	1,823	4,070	59,933
16	3,773	544	1,939	4,370	64,583
17	4,002	569	2,039	4,625	68,348
18	4,231	594	2,139	4,880	72,068
19	4,462	625	2,255	5,180	76,718
20	4,690	650	2,355	5,435	80,483
21	4,921	675	2,455	5,690	84,203
22	5,152	706	2,571	5,990	88,853
23	5,381	731	2,671	6,245	92,618
24	5,610	756	2,771	6,500	96,338
25	5,841	787	2,887	6,800	100,988
26	6,070	812	2,987	7,055	104,753
27	6,299	837	3,087	7,310	108,473
28	6,530	868	3,203	7,610	113,123
29	6,759	893	3,303	7,865	116,888
30	6,987	918	3,403	8,120	120,608
31	7,220	949	3,519	8,420	125,258
32	7,449	974	3,619	8,675	129,023
33	7,678	999	3,719	8,930	132,743
34	7,909	1,030	3,835	9,230	137,393
35	8,138	1,055	3,935	9,485	141,158
36	8,367	1,080	4,035	9,740	144,878
37	8,598	1,111	4,151	10,040	149,528
38	8,827	1,136	4,251	10,295	153,293
39	9,056	1,161	4,351	10,550	157,013
40	9,286	1,192	4,467	10,850	161,663
41	9,517	1,217	4,567	11,105	165,428
42	9,746	1,242	4,667	11,360	169,148
43	9,977	1,273	4,783	11,660	173,798
44	10,206	1,298	4,883	11,915	177,563
45	10,435	1,323	4,983	12,170	181,283
46	10,666	1,354	5,099	12,470	185,933
47	10,895	1,379	5,199	12,725	189,698
48	11,124	1,404	5,299	12,980	193,418
49	11,355	1,435	5,415	13,280	198,068
50	11,583	1,460	5,515	13,535	201,833
51	11,814	1,485	5,615	13,790	205,553
52	12,045	1,516	5,731	14,090	210,203
53	12,274	1,541	5,831	14,345	213,968
$n \bmod 3 \equiv 0$		$27n + 108$	$105n + 243$	$270n + 20$	$4045n - 742$
$n \bmod 3 \equiv 1$		$27n + 112$	$105n + 253$	$270n + 50$	$4045n - 137$

Table XLIII: Size Information for **p08**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
$n \bmod 3 \equiv 2$		$27n + 110$	$105n + 248$	$270n + 35$	$4045n - 417$

Table XLIV: Size Information for **p09**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
2	556	96	374	559	5,984
3	785	121	538	1,009	12,480
4	1,016	152	812	1,793	26,448
5	1,245	177	1,074	2,526	42,782
6	1,474	202	1,302	3,398	63,506
7	1,705	233	1,700	4,744	100,167
8	1,934	258	2,062	5,899	137,612
9	2,163	283	2,354	7,193	180,508
10	2,393	314	2,876	9,101	250,542
11	2,624	339	3,338	10,678	317,690
12	2,853	364	3,694	12,394	390,702
13	3,084	395	4,340	14,864	504,789
14	3,313	420	4,902	16,863	610,232
15	3,542	445	5,322	19,001	721,304
16	3,773	476	6,092	22,033	890,124
17	4,002	501	6,754	24,454	1,042,454
18	4,231	526	7,238	27,014	1,199,530
19	4,462	557	8,132	30,608	1,433,763
20	4,690	582	8,894	33,451	1,641,572
21	4,921	607	9,442	36,433	1,852,596
22	5,152	638	10,460	40,589	2,162,922
23	5,381	663	11,322	43,854	2,434,802
24	5,610	688	11,934	47,258	2,707,718
25	5,841	719	13,076	51,976	3,104,817
26	6,070	744	14,038	55,663	3,449,360
27	6,299	769	14,714	59,489	3,792,112
28	6,530	800	15,980	64,769	4,286,664
29	6,759	825	17,042	68,878	4,712,462
30	6,987	850	17,782	73,126	5,132,994
31	7,220	881	19,172	78,968	5,735,679
32	7,449	906	20,334	83,499	6,251,324
33	7,678	931	21,138	88,169	6,757,580
34	7,909	962	22,652	94,573	7,479,078
35	8,138	987	23,914	99,526	8,093,162
36	8,367	1,012	24,782	104,618	8,693,086
37	8,598	1,043	26,420	111,584	9,544,077

Table XLIV: Size Information for **p09**

Artists	LOC	Nodes	Edges	Tuples	Node-Tuples
38	8,827	1,068	27,782	116,959	10,265,192
39	9,056	1,093	28,714	122,473	10,966,728
40	9,286	1,124	30,476	130,001	11,957,892
41	9,517	1,149	31,938	135,798	12,794,630
42	9,746	1,174	32,934	141,734	13,605,722
43	9,977	1,205	34,820	149,824	14,747,739
44	10,206	1,230	36,382	156,043	15,708,692
45	10,435	1,255	37,442	162,401	16,637,284
46	10,666	1,286	39,452	171,053	17,940,834
47	10,895	1,311	41,114	177,694	19,034,594
48	11,124	1,336	42,238	184,474	20,088,630
49	11,355	1,367	44,372	193,688	21,564,393
50	11,583	1,392	46,134	200,751	22,799,552
51	11,814	1,417	47,322	207,953	23,986,976
52	12,045	1,448	49,580	217,729	25,645,632
53	12,274	1,473	51,442	225,214	27,030,782

C. TIME INFORMATION

This section gives timing information for all of the properties presented in the body of the paper. All times are given in seconds. Since the FLAVERS/Ada toolset has been programmed in three different languages, we have broken down the timing information. The time for running the tools that construct CFGs from the Ada source code, written in Ada, are given in the “Language Processing” column. The time for running the tools, written in Java, that convert these CFGs into a TFG and construct the variable and property automata are given in the “Artifact Building” column. Finally, the times for the MHP analysis and state propagation, both written in C, are given in the “MHP” and “State Propagation” columns, respectively.

C.1 The Reader/Writer Program

Table XLV: Time Information for **exclusive read write**

Readers	Language Processing	Artifact Building	MHP	State Propagation
1	10.31	2.35	0.01	0.02
2	13.38	2.51	0.01	0.02
3	16.68	2.57	0.02	0.02
4	20.02	2.68	0.02	0.02
5	23.49	2.85	0.03	0.01
6	27.09	2.96	0.04	0.01
7	30.72	3.11	0.04	0.01

Table XLV: Time Information for **exclusive read write**

Readers	Language Processing	Artifact Building	MHP	State Propagation
8	34.74	3.12	0.05	0.02
9	39.03	3.25	0.05	0.02
10	42.87	3.38	0.06	0.02
15	65.31	3.81	0.10	0.03
20	90.12	4.10	0.14	0.05
25	118.23	4.49	0.19	0.08
30	149.41	5.03	0.26	0.10
35	183.95	5.46	0.32	0.14
40	222.87	5.80	0.38	0.17
45	262.45	6.13	0.46	0.22
50	305.57	6.45	0.53	0.28
55	351.50	6.83	0.71	0.31
60	405.60	7.07	0.76	0.39
65	457.26	7.50	0.87	0.46
70	513.57	7.74	0.97	0.54
75	572.31	8.22	1.11	0.63
80	636.26	8.50	1.21	0.70
85	698.54	8.82	1.34	0.75
90	770.98	9.18	1.48	0.87
95	839.61	9.54	1.63	0.97
100	915.49	9.94	1.78	1.05
105	994.87	10.35	1.94	1.22
110	1,075.11	10.76	2.47	1.22
115	1,167.92	11.20	2.67	1.38
120	1,247.16	11.61	2.87	1.42
125	1,340.97	12.08	3.05	1.59
130	1,432.88	12.41	3.24	1.69
135	1,536.26	12.87	3.45	1.80
140	1,639.08	12.75	3.56	2.11
145	1,748.94	13.32	3.93	2.08
150	1,853.33	13.77	4.04	2.52
155	1,986.23	14.28	4.36	2.44
160	2,078.24	14.50	4.57	2.61
165	2,199.44	15.02	4.99	2.54
170	2,343.47	15.52	5.09	2.96
175	2,443.62	16.21	5.45	2.88
180	2,562.35	16.70	5.68	3.18
185	2,685.16	17.02	5.81	3.70
190	2,878.66	17.86	6.26	3.65
195	2,969.45	17.84	6.68	3.52
200	3,102.59	18.30	6.92	3.80

Table XLVI: Time Information for **no write while reading**

Readers	Language Processing	Artifact Building	MHP	State Propagation
1	10.31	2.35	0.01	0.02
2	13.38	2.49	0.01	0.02
3	16.68	2.66	0.02	0.02
4	20.02	2.89	0.02	0.02
5	23.49	3.04	0.03	0.02
6	27.09	3.27	0.03	0.03
7	30.72	3.50	0.04	0.03
8	34.74	3.67	0.04	0.04
9	39.03	3.82	0.05	0.05
10	42.87	4.05	0.06	0.06
15	65.31	5.34	0.10	0.14
20	90.12	6.82	0.13	0.31
25	118.23	9.53	0.18	0.54
30	149.41	12.84	0.25	0.94
35	183.95	18.25	0.31	1.33
40	222.87	26.09	0.36	1.92
45	262.45	35.98	0.43	2.69
50	305.57	49.11	0.55	3.54
55	351.50	65.27	0.68	4.68
60	405.60	87.40	0.75	5.99
65	457.26	115.23	0.94	7.39
70	513.57	147.27	0.99	9.19
75	572.31	185.05	1.12	11.23
80	636.26	234.64	1.18	13.55
85	698.54	287.35	1.33	16.14
90	770.98	355.93	1.47	19.04
95	839.61	431.84	1.57	22.45
100	915.49	528.09	1.71	26.27
105	994.87	634.79	1.89	30.01
110	1,075.11	759.27	2.39	34.19
115	1,167.92	891.26	2.54	39.07
120	1,247.16	1,031.15	2.74	44.55
125	1,340.97	1,227.84	2.96	49.74
130	1,432.88	1,423.26	3.12	55.98
135	1,536.26	1,659.95	3.35	62.43
140	1,639.08	1,898.97	3.54	69.53
145	1,748.94	2,176.03	3.78	76.78
150	1,853.33	2,491.65	3.98	85.72
155	1,986.23	2,790.86	4.30	93.24
160	2,078.24	3,165.22	4.45	102.41
165	2,199.44	3,482.43	4.86	111.95

Table XLVI: Time Information for **no write while reading**

Readers	Language Processing	Artifact Building	MHP	State Propagation
170	2,343.47	3,909.01	5.08	121.84
175	2,443.62	4,104.39	5.34	133.48
180	2,562.35	4,552.48	5.68	144.97
185	2,685.16	5,007.25	5.78	157.43
190	2,878.66	5,549.62	6.09	172.47
195	2,969.45	6,155.09	6.44	185.80
200	3,102.59	6,694.03	6.64	200.69

Table XLVII: Time Information for **no write while reading 2**

Readers	Language Processing	Artifact Building	MHP	State Propagation
1	10.31	2.28	0.01	0.02
2	13.38	2.41	0.01	0.02
3	16.68	2.51	0.02	0.02
4	20.02	2.61	0.02	0.02
5	23.49	2.75	0.03	0.02
6	27.09	2.87	0.03	0.02
7	30.72	3.01	0.04	0.01
8	34.74	3.05	0.04	0.02
9	39.03	3.18	0.05	0.02
10	42.87	3.22	0.06	0.02
15	65.31	3.63	0.10	0.04
20	90.12	4.02	0.14	0.06
25	118.23	4.34	0.18	0.09
30	149.41	4.91	0.24	0.14
35	183.95	5.22	0.30	0.19
40	222.87	5.62	0.36	0.25
45	262.45	5.94	0.44	0.28
50	305.57	6.33	0.52	0.35
55	351.50	6.67	0.68	0.46
60	405.60	7.17	0.76	0.50
65	457.26	7.28	0.87	0.58
70	513.57	7.73	0.95	0.68
75	572.31	8.05	1.09	0.78
80	636.26	8.45	1.19	0.89
85	698.54	8.79	1.35	0.94
90	770.98	9.23	1.45	1.14
95	839.61	9.56	1.56	1.28
100	915.49	9.93	1.74	1.36

Table XLVII: Time Information for **no write while reading 2**

Readers	Language Processing	Artifact Building	MHP	State Propagation
105	994.87	10.28	1.88	1.59
110	1,075.11	10.58	2.43	1.56
115	1,167.92	11.15	2.60	1.74
120	1,247.16	11.35	2.77	1.89
125	1,340.97	11.79	3.01	2.06
130	1,432.88	12.16	3.17	2.22
135	1,536.26	12.60	3.38	2.44
140	1,639.08	12.96	3.53	2.69
145	1,748.94	13.26	3.81	2.80
150	1,853.33	13.83	4.02	3.01
155	1,986.23	13.97	4.28	3.16
160	2,078.24	14.44	4.50	3.37
165	2,199.44	15.22	4.82	3.54
170	2,343.47	15.60	5.16	3.70
175	2,443.62	15.90	5.24	4.09
180	2,562.35	16.22	5.54	4.30
185	2,685.16	16.70	5.87	4.51
190	2,878.66	17.30	6.14	4.97
195	2,969.45	17.82	6.61	4.78
200	3,102.59	18.01	6.62	5.36

Table XLVIII: Time Information for **write first**

Readers	Language Processing	Artifact Building	MHP	State Propagation
1	10.31	2.28	0.01	0.02
2	13.38	2.41	0.01	0.02
3	16.68	2.45	0.02	0.02
4	20.02	2.55	0.02	0.02
5	23.49	2.74	0.02	0.02
6	27.09	2.84	0.03	0.01
7	30.72	2.90	0.04	0.01
8	34.74	3.08	0.04	0.02
9	39.03	3.17	0.05	0.02
10	42.87	3.17	0.05	0.03
15	65.31	3.64	0.09	0.06
20	90.12	3.92	0.13	0.08
25	118.23	4.28	0.17	0.13
30	149.41	4.62	0.23	0.21
35	183.95	5.11	0.29	0.26
40	222.87	5.50	0.34	0.35

Table XLVIII: Time Information for **write first**

Readers	Language Processing	Artifact Building	MHP	State Propagation
45	262.45	6.07	0.43	0.39
50	305.57	6.40	0.50	0.51
55	351.50	6.87	0.63	0.61
60	405.60	7.02	0.72	0.70
65	457.26	7.54	0.81	0.82
70	513.57	7.79	0.90	0.95
75	572.31	8.37	0.99	1.14
80	636.26	8.62	1.11	1.29
85	698.54	9.19	1.23	1.44
90	770.98	9.61	1.37	1.68
95	839.61	9.82	1.51	1.85
100	915.49	10.29	1.62	2.00
105	994.87	10.74	1.75	2.25
110	1,075.11	11.12	2.23	2.42
115	1,167.92	11.30	2.44	2.54
120	1,247.16	12.00	2.58	2.85
125	1,340.97	12.17	2.80	3.09
130	1,432.88	12.78	2.98	3.32
135	1,536.26	12.90	3.15	3.61
140	1,639.08	13.60	3.29	3.93
145	1,748.94	14.21	3.58	4.19
150	1,853.33	14.57	3.78	4.50
155	1,986.23	14.97	4.02	4.86
160	2,078.24	15.25	4.19	7.06
165	2,199.44	16.07	4.48	5.29
170	2,343.47	16.36	4.81	5.58
175	2,443.62	16.73	4.91	6.04
180	2,562.35	17.24	5.22	6.36
185	2,685.16	17.55	5.54	6.71
190	2,878.66	18.15	5.89	9.66
195	2,969.45	18.51	6.26	7.15
200	3,102.59	18.94	6.29	7.91

C.2 The Gas Station Program

Table XLIX: Time Information for **mutual exclusion**, 1 pump

Customers	Language Processing	Artifact Building	MHP	State Propagation
2	13.20	2.50	0.02	0.02
3	15.89	2.55	0.03	0.12

Table XLIX: Time Information for **mutual exclusion**, 1 pump

Customers	Language Processing	Artifact Building	MHP	State Propagation
4	18.88	2.70	0.04	1.06
5	22.23	2.84	0.05	8.43
6	25.37	3.02	0.07	64.50
7	29.00	3.10	0.07	465.08

Table L: Time Information for **mutual exclusion**, 2 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
2	17.16	2.66	0.04	0.27
3	21.59	2.96	0.07	8.51
4	26.25	3.20	0.09	210.40
5	31.32	3.50	0.11	4,440.17

Table LI: Time Information for **mutual exclusion**, 3 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
2	21.78	2.97	0.06	1.14
3	27.78	3.24	0.10	66.36
4	34.77	3.58	0.15	2,752.95

Table LII: Time Information for **customer 1 start/stop**, 1 pump

Customers	Language Processing	Artifact Building	MHP	State Propagation
1	10.66	2.26	0.01	0.02
2	13.20	2.42	0.02	0.02
3	15.89	2.52	0.03	0.02
4	18.88	2.76	0.04	0.02
5	22.23	2.84	0.05	0.02
6	25.37	2.96	0.06	0.01
7	29.00	3.12	0.07	0.02
8	32.80	3.23	0.08	0.02
9	36.72	3.39	0.10	0.02
10	40.96	3.42	0.11	0.03
15	65.46	4.07	0.20	0.03
20	95.51	4.77	0.30	0.06

Table LII: Time Information for **customer 1 start/stop**, 1 pump

Customers	Language Processing	Artifact Building	MHP	State Propagation
25	130.73	5.32	0.42	0.10
30	170.72	6.09	0.56	0.14
35	217.71	6.70	0.73	0.19
40	269.89	7.24	0.90	0.25
45	329.50	8.07	1.10	0.32
50	392.99	8.74	1.37	0.38
55	457.82	9.49	1.61	0.47
60	536.42	10.25	1.87	0.55
65	622.55	10.86	2.19	0.65
70	701.15	12.00	2.52	0.66
75	791.52	12.88	2.91	0.75
80	886.84	14.06	3.34	0.87
85	998.03	14.91	3.75	0.97
90	1,106.96	16.50	4.08	1.17
95	1,220.08	17.03	4.54	1.31
100	1,341.87	17.70	4.91	1.49
105	1,458.41	18.85	5.58	1.63
110	1,596.75	19.87	6.23	1.65
115	1,747.86	21.26	6.72	2.05
120	1,895.65	21.47	7.40	2.17
125	2,024.84	23.69	7.97	2.42
130	2,191.92	24.76	8.81	2.29
135	2,357.15	26.33	9.48	2.42
140	2,515.85	27.07	9.98	2.78
145	2,701.50	28.21	11.06	2.82
150	2,879.06	28.79	11.62	3.17
155	3,086.53	30.38	12.38	3.56
160	3,259.17	31.26	13.10	3.93
165	3,431.91	32.99	14.08	3.86
170	3,661.25	33.92	14.70	4.32
175	3,863.44	34.88	15.98	4.09
180	4,075.99	37.11	16.54	4.71
185	4,321.58	37.44	17.60	5.09
190	4,521.09	39.67	18.56	5.18
195	4,843.94	40.99	19.60	5.10
200	4,975.10	42.04	20.25	5.78

Table LIII: Time Information for **customer 1 start/stop**, 2 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
1	13.33	2.48	0.02	0.02
2	17.16	2.70	0.04	0.02
3	21.59	2.90	0.06	0.01
4	26.25	3.15	0.09	0.01
5	31.32	3.32	0.11	0.03
6	36.76	3.45	0.14	0.04
7	42.86	3.79	0.18	0.04
8	49.32	3.99	0.21	0.06
9	55.83	4.23	0.25	0.08
10	63.40	4.44	0.29	0.11
15	106.31	5.66	0.56	0.22
20	160.31	6.76	0.91	0.37
25	226.35	7.98	1.36	0.60
30	303.19	9.15	1.90	0.84
35	390.09	10.34	2.52	1.14
40	491.81	12.63	3.41	1.40
45	603.49	14.14	4.13	1.93
50	723.02	16.03	5.12	2.34
55	860.46	17.60	6.23	2.74
60	1,005.25	19.55	7.28	3.38
65	1,166.14	21.21	8.55	4.01
70	1,341.85	24.02	9.99	4.60
75	1,527.55	26.75	11.31	5.31
80	1,710.62	29.31	12.80	6.12
85	1,921.73	31.50	14.67	6.58
90	2,146.59	32.26	16.11	7.65
95	2,360.47	36.66	18.07	8.36
100	2,605.06	39.02	20.00	9.29
105	2,873.67	41.21	22.06	10.39
110	3,163.82	44.38	24.19	11.28
115	3,438.75	48.45	26.73	12.03
120	3,712.83	50.24	28.85	13.29
125	4,009.03	53.83	31.33	14.26
130	4,361.13	56.84	34.29	15.46
135	4,684.45	60.81	36.51	17.46
140	5,130.00	62.29	39.37	18.46
145	5,346.14	65.21	42.79	19.37
150	5,717.29	69.40	44.95	20.92
155	6,136.35	72.37	48.71	22.19
160	6,525.49	76.57	51.95	23.40

Table LIII: Time Information for **customer 1 start/stop**, 2 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
165	6,919.65	78.04	54.84	25.40
170	7,372.17	81.05	58.78	26.27
175	7,754.29	86.43	62.89	27.68
180	8,245.44	91.38	66.40	29.45
185	8,743.03	95.20	70.04	31.74
190	9,246.77	100.08	74.40	33.80
195	9,699.38	103.54	76.85	36.09
200	10,226.35	108.33	82.02	38.18

Table LIV: Time Information for **customer 1 start/stop**, 3 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
1	16.23	2.55	0.03	0.01
2	21.78	2.93	0.06	0.01
3	27.78	3.20	0.10	0.02
4	34.77	3.49	0.14	0.03
5	41.85	3.75	0.19	0.06
6	50.16	4.16	0.25	0.08
7	59.04	4.48	0.31	0.11
8	68.57	4.73	0.38	0.16
9	79.14	5.07	0.47	0.16
10	90.60	5.52	0.55	0.23
15	156.84	7.13	1.11	0.52
20	241.25	8.82	1.87	0.88
25	343.79	10.82	2.83	1.39
30	466.51	13.37	3.94	2.13
35	603.94	16.25	5.46	2.73
40	767.11	18.58	7.04	3.66
45	943.32	21.09	8.92	4.64
50	1,139.82	24.60	11.02	5.91
55	1,354.07	30.15	13.19	7.14
60	1,603.95	31.22	15.77	8.25
65	1,851.98	34.91	18.64	9.60
70	2,115.74	40.41	21.45	11.30
75	2,440.13	45.06	24.69	12.77
80	2,755.38	47.22	27.83	14.71
85	3,052.55	54.90	31.89	16.40

Table LIV: Time Information for **customer 1 start/stop**, 3 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
90	3,432.07	59.29	35.49	18.89
95	3,819.72	67.61	39.76	20.81
100	4,203.09	70.39	43.65	23.08
105	4,632.99	78.66	49.37	24.81
110	5,095.32	78.46	54.45	27.24
115	5,548.51	82.97	58.88	29.89
120	6,031.49	84.57	64.17	33.65
125	6,579.23	92.52	69.98	35.26
130	7,088.06	100.51	75.09	41.33
135	7,605.84	109.27	82.98	43.89
140	8,223.08	114.82	88.05	45.58
145	8,838.32	118.58	94.63	48.92
150	9,481.54	129.09	103.79	48.97
155	10,108.83	134.26	110.95	54.61
160	10,737.75	141.39	117.07	61.13
165	11353.00	149.50	126.26	62.89
170	12,073.26	159.48	134.77	67.41
175	12,840.67	169.40	142.84	72.20
180	13,587.33	173.90	150.86	75.96
185	14,397.05	183.22	159.70	79.53
190	15,233.21	192.22	171.44	82.10
195	16,068.61	200.69	178.95	88.75
200	16,834.51	215.52	190.67	91.93

Table LV: Time Information for **pump 1 start/stop**, 1 pump

Customers	Language Processing	Artifact Building	MHP	State Propagation
1	10.66	2.27	0.01	0.02
2	13.20	2.46	0.02	0.02
3	15.89	2.50	0.03	0.02
4	18.88	2.66	0.04	0.02
5	22.23	2.78	0.05	0.04
6	25.37	2.98	0.06	0.06
7	29.00	3.13	0.07	0.09
8	32.80	3.26	0.08	0.14
9	36.72	3.38	0.10	0.18
10	40.96	3.41	0.11	0.23
15	65.46	3.96	0.19	0.71

Table LV: Time Information for **pump 1 start/stop**, 1 pump

Customers	Language Processing	Artifact Building	MHP	State Propagation
20	95.51	4.81	0.29	1.58
25	130.73	5.45	0.41	2.95
30	170.72	6.08	0.56	4.97
35	217.71	6.81	0.74	7.79
40	269.89	7.33	0.93	11.38
45	329.50	8.30	1.15	16.36
50	392.99	8.80	1.37	22.23
55	457.82	9.64	1.65	28.84
60	536.42	10.68	1.98	37.26
65	622.55	10.97	2.28	47.09
70	701.15	12.04	2.59	58.61
75	791.52	12.85	2.98	72.00
80	886.84	14.14	3.41	86.97
85	998.03	15.22	3.84	103.93
90	1,106.96	16.26	4.31	123.97
95	1,220.08	16.88	4.79	144.69
100	1,341.87	17.70	5.19	168.19
105	1,458.41	19.01	5.75	195.30
110	1,596.75	20.21	6.30	223.56
115	1,747.86	21.19	6.91	255.60
120	1,895.65	21.86	7.44	292.72
125	2,024.84	23.88	8.15	328.20
130	2,191.92	24.79	8.84	367.99
135	2,357.15	25.72	9.59	414.26
140	2,515.85	27.39	10.24	460.34
145	2,701.50	28.06	10.98	508.98
150	2,879.06	29.10	11.66	561.25
155	3,086.53	30.17	12.69	620.38
160	3,259.17	31.42	13.57	682.25
165	3,431.91	32.70	14.31	759.99
170	3,661.25	34.08	15.01	817.96
175	3,863.44	35.34	15.79	892.83
180	4,075.99	36.80	16.77	972.94
185	4,321.58	38.20	17.85	1,060.58
190	4,521.09	39.49	18.63	1,141.90
195	4,843.94	41.41	19.80	1,238.16
200	4,975.10	42.40	20.85	1,335.93

Table LVI: Time Information for **pump 1 start/stop**, 2 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
1	13.33	2.44	0.02	0.02
2	17.16	2.64	0.05	0.02
3	21.59	2.93	0.06	0.09
4	26.25	3.10	0.08	0.19
5	31.32	3.30	0.11	0.34
6	36.76	3.52	0.14	0.57
7	42.86	3.79	0.18	0.88
8	49.32	3.92	0.22	1.29
9	55.83	4.22	0.27	1.80
10	63.40	4.45	0.30	2.47
15	106.31	5.66	0.58	8.08
20	160.31	6.66	0.95	18.78
25	226.35	7.94	1.44	36.31
30	303.19	9.23	1.99	62.44
35	390.09	10.71	2.73	98.74
40	491.81	12.46	3.48	147.12
45	603.49	14.26	4.48	217.09
50	723.02	15.92	5.48	285.73
55	860.46	18.67	6.61	380.31
60	1,005.25	19.65	7.72	494.78
65	1,166.14	21.56	9.02	646.35
70	1,341.85	24.04	10.58	793.66
75	1,527.55	27.01	12.04	980.67
80	1,710.62	29.38	13.65	1,166.69
85	1,921.73	31.45	15.58	1,418.07
90	2,146.59	32.69	17.41	1,664.53
95	2,360.47	36.55	19.29	1,955.72
100	2,605.06	39.12	21.66	2,281.90
105	2,873.67	41.14	23.91	2,637.48
110	3,163.82	44.89	25.88	3,024.46
115	3,438.75	48.40	28.36	3,610.88
120	3,712.83	50.63	30.77	4,092.11
125	4,009.03	52.31	33.98	4,460.43
130	4,361.13	55.40	36.54	5,018.03
135	4,684.45	60.46	39.41	5,615.26
140	5,130.00	62.04	42.15	6,256.09
145	5,346.14	64.70	45.18	6,961.22
150	5,717.29	69.68	49.28	7,714.82
155	6,136.35	72.45	52.43	8,505.46
160	6,525.49	77.50	52.97	9,318.79
165	6,919.65	77.37	55.27	10,310.63

Table LVI: Time Information for **pump 1 start/stop**, 2 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
170	7,372.17	81.27	59.54	11,185.78
175	7,754.29	86.41	62.24	12,237.85
180	8,245.44	90.48	66.61	13,341.37
185	8,743.03	93.81	71.18	14,604.04
190	9,246.77	101.84	75.54	15,621.02
195	9,699.38	104.39	79.87	16,913.81
200	10,226.35	110.61	85.50	18,230.31

Table LVII: Time Information for **pump 1 start/stop**, 3 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
1	16.23	2.55	0.03	0.01
2	21.78	2.90	0.06	0.06
3	27.78	3.22	0.10	0.22
4	34.77	3.49	0.15	0.50
5	41.85	3.81	0.20	0.98
6	50.16	4.20	0.26	1.69
7	59.04	4.47	0.32	2.65
8	68.57	4.71	0.40	4.00
9	79.14	5.08	0.48	6.31
10	90.60	5.60	0.58	7.78
15	156.84	6.99	1.19	25.85
20	241.25	8.71	1.99	61.75
25	343.79	10.91	3.06	120.15
30	466.51	13.62	4.21	206.58
35	603.94	16.03	5.79	327.85
40	767.11	18.47	7.70	493.18
45	943.32	21.26	9.74	709.00
50	1,139.82	24.40	11.84	959.21
55	1,354.07	30.61	14.36	1,284.50
60	1,603.95	31.52	17.10	1,661.57
65	1,851.98	35.04	20.16	2,105.62
70	2,115.74	40.24	23.20	2,637.58
75	2,440.13	45.14	26.54	3,243.22
80	2,755.38	48.20	30.27	3,970.98
85	3,052.55	56.35	34.20	4,782.74
90	3,432.07	60.71	38.86	5,604.50
95	3,819.72	66.66	42.79	6,631.36
100	4,203.09	70.38	49.94	7,709.71

Table LVII: Time Information for **pump 1 start/stop**, 3 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
105	4,632.99	74.96	52.98	8,942.53
110	5,095.32	78.92	57.94	10,325.71
115	5,548.51	83.73	64.31	11,801.37
120	6,031.49	86.47	70.24	13,318.92
125	6,579.23	92.96	76.69	15,064.93
130	7,088.06	100.70	82.08	16,964.99
135	7,605.84	108.72	89.58	18,970.21
140	8,223.08	113.23	96.12	21,216.79
145	8,838.32	122.72	98.00	23,447.59
150	9,481.54	127.46	105.76	26,018.16
155	10,108.83	134.17	112.27	28,868.29
160	10,737.75	141.46	120.72	31,713.96
165	11353.00	148.62	132.15	34,744.02
170	12,073.26	159.13	137.49	38,339.41
175	12,840.67	168.50	147.82	41,431.76
180	13,587.33	176.43	157.53	45,219.58
185	14,397.05	183.39	163.80	48,848.31
190	15,233.21	195.22	176.63	52,944.06
195	16,068.61	201.98	185.95	57,241.29
200	16,834.51	211.80	195.34	61,614.47

Table LVIII: Time Information for **correct change**, 2 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
1	13.33	2.47	0.02	0.02
2	17.16	2.64	0.04	0.17
3	21.59	2.94	0.06	1.61
4	26.25	3.14	0.08	6.13
5	31.32	3.36	0.11	16.70
6	36.76	3.53	0.14	36.83
7	42.86	3.72	0.18	71.79
8	49.32	3.86	0.21	126.92
9	55.83	4.24	0.25	209.61
10	63.40	4.55	0.29	326.90
15	106.31	5.64	0.54	1,775.73
20	160.31	6.88	0.93	5,872.42
25	226.35	7.78	1.33	14,822.10
30	303.19	9.32	1.84	31,580.67
35	390.09	10.65	2.50	59,339.27

Table LVIII: Time Information for **correct change**, 2 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
40	491.81	12.36	3.15	102,732.63
45	603.49	14.18	4.03	167,096.91
46	628.60	14.51	4.23	182,531.10

Table LIX: Time Information for **correct change**, 3 pumps

Customers	Language Processing	Artifact Building	MHP	State Propagation
1	16.23	2.56	0.03	0.01
2	21.78	3.00	0.06	1.00
3	27.78	3.24	0.10	15.53
4	34.77	3.46	0.14	63.86
5	41.85	3.78	0.19	180.89
6	50.16	4.13	0.24	418.78
7	59.04	4.47	0.31	827.70
8	68.57	4.76	0.38	1,483.82
9	79.14	5.14	0.45	2,483.08
10	90.60	5.59	0.54	3,915.99
15	156.84	7.18	1.08	22,280.86
20	241.25	8.83	1.84	74,946.24
25	343.79	10.88	2.74	190,029.58

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Table LX: Time Information for **mutual exclusion**, Standard version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
3	14.01	2.34	0.02	0.02
4	17.14	2.50	0.03	0.03
5	20.47	2.50	0.02	0.08
6	24.10	2.68	0.03	0.10
7	27.64	2.77	0.03	0.16
8	31.59	2.89	0.04	0.21
9	35.36	2.97	0.05	0.27
10	39.98	3.08	0.06	0.35
15	62.05	3.50	0.09	0.90
20	87.89	3.83	0.14	1.63
25	118.04	4.31	0.18	2.71

Table LX: Time Information for **mutual exclusion**, Standard version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
30	150.22	4.55	0.25	4.07
35	186.95	5.08	0.33	5.49
40	228.10	5.36	0.40	7.20
45	270.73	5.69	0.48	9.21
50	318.73	6.14	0.56	11.54
55	370.94	6.59	0.73	14.01
60	424.11	6.89	0.83	16.81
65	483.60	7.23	0.95	20.19
70	544.84	7.48	1.10	23.39
75	607.22	7.91	1.22	26.63
80	675.27	8.33	1.40	30.20
85	750.58	8.74	1.49	34.10
90	829.82	9.07	1.65	38.43
95	913.28	9.55	1.80	43.27
100	990.11	9.64	2.03	47.38
105	1,084.81	10.08	2.21	53.09
110	1,169.21	10.48	2.72	57.91
115	1,263.12	10.74	2.86	63.60
120	1,361.25	11.25	3.13	70.20
125	1,466.64	11.38	3.46	74.93
130	1,588.23	11.86	3.52	81.83
135	1,690.07	12.27	3.89	87.79
140	1,801.79	12.46	4.15	95.23
145	1,964.70	13.92	4.61	103.53
150	2,109.22	14.71	4.86	109.81
155	2,168.07	14.65	4.94	119.83
160	2,288.95	15.20	5.29	124.76
165	2,429.48	15.30	5.64	131.76
170	2,567.83	15.91	6.04	140.19
175	2,713.35	16.13	6.21	149.86
180	2,861.87	16.40	6.73	157.67
185	2,991.16	17.23	6.85	167.47
190	3,151.07	17.42	7.29	176.04
195	3,308.33	17.85	7.72	186.79
200	3,466.34	18.47	8.04	194.46

Table LXI: Time Information for **no fork 1 up twice**, Standard version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
3	14.01	2.37	0.02	0.02
4	17.14	2.40	0.02	0.02
5	20.47	2.54	0.02	0.02
6	24.10	2.66	0.03	0.01
7	27.64	2.76	0.04	0.02
8	31.59	2.83	0.04	0.04
9	35.36	2.95	0.04	0.05
10	39.98	3.09	0.05	0.06
15	62.05	3.41	0.09	0.13
20	87.89	3.71	0.13	0.23
25	118.04	4.15	0.18	0.36
30	150.22	4.43	0.24	0.55
35	186.95	4.88	0.31	0.73
40	228.10	5.26	0.38	0.98
45	270.73	5.62	0.47	1.21
50	318.73	6.06	0.56	1.54
55	370.94	6.48	0.71	1.83
60	424.11	6.91	0.82	2.24
65	483.60	7.10	0.93	2.60
70	544.84	7.50	1.03	3.03
75	607.22	7.79	1.20	3.36
80	675.27	8.34	1.32	3.88
85	750.58	8.66	1.44	4.46
90	829.82	9.05	1.59	4.97
95	913.28	9.22	1.77	5.56
100	990.11	9.47	2.00	6.17
105	1,084.81	9.95	2.16	6.81
110	1,169.21	10.28	2.64	7.45
115	1,263.12	10.66	2.84	8.33
120	1,361.25	11.30	3.09	8.97
125	1,466.64	11.70	3.34	9.70
130	1,588.23	11.83	3.55	10.53
135	1,690.07	12.17	3.77	11.25
140	1,801.79	12.59	4.05	12.18
145	1,964.70	13.33	4.32	12.94
150	2,109.22	14.19	4.59	13.95
155	2,168.07	14.54	4.97	15.03
160	2,288.95	14.71	5.15	16.09
165	2,429.48	15.09	5.55	16.79
170	2,567.83	15.44	5.84	17.81

Table LXI: Time Information for **no fork 1 up twice**, Standard version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
175	2,713.35	15.93	6.16	19.11
180	2,861.87	16.49	6.47	20.55
185	2,991.16	16.88	6.84	21.16
190	3,151.07	17.21	7.12	22.36
195	3,308.33	17.62	7.60	23.70
200	3,466.34	18.06	7.81	25.01

Table LXII: Time Information for **mutual exclusion**, Fork Manager version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
2	10.57	2.37	0.02	0.02
3	12.78	2.48	0.02	0.02
4	15.06	2.53	0.02	0.02
5	17.47	2.62	0.01	0.03
6	20.21	2.71	0.02	0.03
7	22.86	2.73	0.02	0.04
8	25.56	2.85	0.02	0.06
9	28.53	2.90	0.02	0.07
10	31.84	3.02	0.03	0.09
15	49.30	3.37	0.04	0.19
20	69.99	3.67	0.05	0.34
25	95.14	3.96	0.07	0.52
30	122.84	4.36	0.08	0.75
35	153.69	4.59	0.10	1.00
40	188.82	4.99	0.11	1.32
45	227.54	5.24	0.14	1.68
50	268.92	5.55	0.16	2.12
55	316.25	5.79	0.18	2.49
60	365.58	6.17	0.21	2.95
65	420.03	6.36	0.24	3.58
70	475.78	6.62	0.26	4.01
75	536.58	6.95	0.29	4.62
80	599.24	7.41	0.32	5.25
85	665.07	7.70	0.35	5.91
90	737.27	8.04	0.39	6.63
95	808.87	8.12	0.42	7.49
100	891.40	8.43	0.46	8.15
105	973.23	8.75	0.49	9.05

Table LXII: Time Information for **mutual exclusion**, Fork Manager version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
110	1,050.41	9.22	0.54	9.90
115	1,151.94	9.46	0.57	10.81
120	1,247.31	9.78	0.60	11.85
125	1,343.68	10.09	0.66	12.78
130	1,440.24	10.43	0.74	13.91
135	1,549.18	10.64	0.79	14.90
140	1,658.09	11.11	0.82	16.12
145	1,781.20	11.22	0.88	17.25
150	1,915.78	12.33	0.97	18.80
155	1,997.38	11.93	0.95	19.74
160	2,128.31	12.29	1.00	20.97
165	2,257.28	12.66	1.10	23.89
170	2,375.21	12.69	1.14	23.74
175	2,506.76	13.44	1.18	25.01
180	2,656.16	13.59	1.26	26.62
185	2,814.12	13.55	1.32	27.93
190	2,952.26	14.55	1.38	29.57
195	3,099.22	14.79	1.48	30.96
200	3,253.16	14.72	1.45	33.05

Table LXIII: Time Information for **no fork 1 up twice**, Fork Manager version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
2	10.57	2.35	0.01	0.02
3	12.78	2.44	0.01	0.02
4	15.06	2.48	0.02	0.02
5	17.47	2.61	0.02	0.02
6	20.21	2.67	0.02	0.02
7	22.86	2.71	0.03	0.02
8	25.56	2.83	0.02	0.02
9	28.53	2.93	0.02	0.02
10	31.84	3.02	0.03	0.01
15	49.30	3.34	0.05	0.02
20	69.99	3.70	0.06	0.03
25	95.14	3.96	0.07	0.07
30	122.84	4.38	0.09	0.06
35	153.69	4.59	0.12	0.08

Table LXIII: Time Information for **no fork 1 up twice**, Fork Manager version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
40	188.82	5.04	0.13	0.12
45	227.54	5.36	0.15	0.16
50	268.92	5.52	0.19	0.17
55	316.25	5.83	0.21	0.20
60	365.58	6.10	0.24	0.24
65	420.03	6.35	0.28	0.29
70	475.78	6.89	0.31	0.33
75	536.58	7.12	0.33	0.39
80	599.24	7.38	0.37	0.43
85	665.07	7.68	0.42	0.48
90	737.27	8.02	0.46	0.53
95	808.87	8.36	0.48	0.62
100	891.40	8.58	0.53	0.68
105	973.23	8.80	0.59	0.73
110	1,050.41	9.36	0.61	0.82
115	1,151.94	9.78	0.65	0.91
120	1,247.31	9.79	0.73	0.94
125	1,343.68	10.22	0.76	1.04
130	1,440.24	10.56	0.85	1.16
135	1,549.18	10.71	0.93	1.21
140	1,658.09	11.10	0.94	1.30
145	1,781.20	11.42	1.01	1.39
150	1,915.78	11.83	1.09	1.49
155	1,997.38	11.92	1.12	1.64
160	2,128.31	12.32	1.17	1.72
165	2,257.28	12.76	1.25	1.83
170	2,375.21	13.35	1.32	1.92
175	2,506.76	13.10	1.43	1.95
180	2,656.16	13.92	1.48	2.13
185	2,814.12	13.74	1.56	2.24
190	2,952.26	13.90	1.63	2.49
195	3,099.22	14.54	1.69	2.53
200	3,253.16	15.37	1.74	2.67

Table LXIV: Time Information for **mutual exclusion**, Dictionary version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
2	11.18	2.32	0.02	0.02

Table LXIV: Time Information for **mutual exclusion**, Dictionary version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
3	14.51	2.44	0.02	0.04
4	18.04	2.52	0.03	0.10
5	21.61	2.66	0.04	0.19
6	25.69	2.75	0.05	0.33
7	29.59	3.01	0.06	0.48
8	34.05	3.05	0.07	0.70
9	38.21	3.13	0.08	0.95
10	42.81	3.24	0.09	1.23
15	68.70	3.69	0.19	3.16
20	98.67	4.19	0.34	5.97
25	133.01	4.55	0.60	9.70
30	173.66	5.09	0.85	14.46
35	217.20	5.54	1.19	20.40
40	264.11	6.03	1.65	26.43
45	318.70	6.55	2.09	33.78
50	375.78	6.91	3.10	41.97
55	438.45	7.35	3.99	51.45
60	504.92	7.71	4.63	61.43
65	577.75	8.15	5.68	72.54
70	654.31	8.56	6.56	83.96
75	745.31	9.51	7.91	96.91
80	822.56	9.66	9.27	110.98
85	909.93	10.04	10.80	125.23
90	1,009.68	10.28	12.83	142.14
95	1,103.25	11.16	18.04	158.32
100	1,223.70	11.58	20.29	175.99
105	1,326.20	12.18	23.76	195.03
110	1,433.38	12.58	26.07	212.95
115	1,557.64	12.95	29.75	232.66
120	1,674.93	13.54	32.90	253.95
125	1,804.49	14.17	37.17	275.26
130	1,935.10	14.55	40.70	296.87
135	2,087.34	15.16	45.61	322.47
140	2,223.43	15.90	49.95	347.28
145	2,377.10	16.66	54.19	370.99
150	2,587.45	17.94	61.62	405.03
155	2,671.02	17.67	63.94	428.19
160	2,932.09	18.05	70.36	455.47
165	3,025.15	18.74	77.32	484.93
170	3,196.60	19.53	82.73	514.57

Table LXIV: Time Information for **mutual exclusion**, Dictionary version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
175	3,363.80	19.87	89.46	542.99
180	3,569.91	20.36	125.07	582.80
185	3,759.29	20.90	104.73	610.39
190	3,938.50	21.83	142.67	642.98
195	4,141.20	22.14	151.44	675.77
200	4,363.02	22.41	160.24	721.54

Table LXV: Time Information for **no fork 1 up twice**, Dictionary version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
2	11.18	2.30	0.01	0.02
3	14.51	2.40	0.02	0.02
4	18.04	2.45	0.02	0.02
5	21.61	2.61	0.04	0.02
6	25.69	2.71	0.04	0.03
7	29.59	2.83	0.05	0.05
8	34.05	2.97	0.07	0.05
9	38.21	3.15	0.08	0.07
10	42.81	3.23	0.09	0.08
15	68.70	3.68	0.19	0.20
20	98.67	4.08	0.33	0.35
25	133.01	4.48	0.58	0.55
30	173.66	5.06	0.84	0.81
35	217.20	5.48	1.18	1.09
40	264.11	5.96	1.62	1.48
45	318.70	6.45	2.07	1.86
50	375.78	7.03	3.11	2.34
55	438.45	7.43	3.74	2.78
60	504.92	7.65	4.68	3.29
65	577.75	8.09	5.63	3.85
70	654.31	8.40	6.49	4.79
75	745.31	9.13	8.13	4.98
80	822.56	9.61	9.21	6.28
85	909.93	10.06	10.70	6.43
90	1,009.68	10.38	12.16	7.63
95	1,103.25	10.74	18.74	7.86
100	1,223.70	11.56	20.83	9.58
105	1,326.20	12.06	23.66	10.04

Table LXV: Time Information for **no fork 1 up twice**, Dictionary version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
110	1,433.38	12.45	26.92	11.07
115	1,557.64	12.97	29.77	12.40
120	1,674.93	13.51	33.29	13.67
125	1,804.49	14.04	36.13	14.92
130	1,935.10	14.50	40.86	16.06
135	2,087.34	15.10	45.21	16.15
140	2,223.43	16.01	49.59	18.67
145	2,377.10	16.59	54.51	19.72
150	2,587.45	17.47	58.92	21.84
155	2,671.02	17.55	64.14	22.76
160	2,932.09	18.06	70.93	23.48
165	3,025.15	18.78	76.42	24.80
170	3,196.60	18.98	82.79	26.82
175	3,363.80	19.78	90.50	27.10
180	3,569.91	20.48	96.47	29.89
185	3,759.29	20.75	104.65	33.30
190	3,938.50	22.22	143.26	33.39
195	4,141.20	22.47	148.99	35.83
200	4,363.02	22.72	160.40	38.57

Table LXVI: Time Information for **mutual exclusion**, Host version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
2	12.87	2.38	0.02	0.02
3	16.33	2.47	0.03	0.05
4	19.78	2.56	0.03	0.14
5	23.38	2.68	0.04	0.26
6	27.17	2.85	0.05	0.44
7	31.15	2.94	0.06	0.66
8	35.43	3.08	0.08	0.90
9	39.59	3.19	0.08	1.20
10	44.05	3.27	0.09	1.56
15	68.66	3.72	0.16	3.98
20	96.50	4.23	0.26	7.43
25	129.74	4.79	0.38	12.08
30	165.75	5.09	0.51	17.84
35	205.61	5.45	0.65	24.89
40	251.27	5.98	0.78	32.66

Table LXVI: Time Information for **mutual exclusion**, Host version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
45	299.64	6.46	1.06	42.14
50	351.91	6.77	1.32	51.92
55	406.00	7.11	1.50	63.78
60	469.66	7.53	1.74	75.90
65	535.25	7.95	1.98	89.05
70	603.15	8.50	2.31	103.94
75	680.11	9.18	2.55	119.46
80	750.68	9.55	2.86	136.01
85	838.52	9.86	3.14	160.06
90	921.47	10.17	4.02	174.33
95	1,011.61	10.54	4.52	194.27
100	1,102.68	11.07	4.79	214.71
105	1,210.76	11.60	5.28	237.48
110	1,306.13	11.84	5.66	264.28
115	1,411.81	12.36	6.08	285.09
120	1,534.02	12.72	6.72	310.75
125	1,639.29	13.34	7.24	338.76
130	1,755.88	13.57	7.83	366.74
135	1,892.40	14.72	8.39	394.65
140	2,010.41	14.98	9.00	431.66
145	2,145.24	15.79	9.71	462.64
150	2332.00	17.11	10.93	498.65
155	2,427.08	16.70	10.68	527.11
160	2,566.14	17.21	11.54	557.10
165	2,716.69	17.60	12.14	592.18
170	2,883.65	18.12	12.87	629.50
175	3,026.86	18.68	15.65	669.98
180	3,194.43	19.34	16.67	704.91
185	3,359.89	19.96	17.32	747.95
190	3,545.29	20.35	18.43	791.54
195	3,709.43	20.82	18.95	829.79
200	3,896.34	21.64	20.07	874.60

Table LXVII: Time Information for **no fork 1 up twice**, Host version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
2	12.87	2.40	0.02	0.02
3	16.33	2.40	0.02	0.02

Table LXVII: Time Information for **no fork 1 up twice**, Host version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
4	19.78	2.53	0.03	0.01
5	23.38	2.64	0.03	0.04
6	27.17	2.77	0.05	0.04
7	31.15	2.93	0.06	0.05
8	35.43	3.01	0.07	0.07
9	39.59	3.16	0.07	0.10
10	44.05	3.28	0.09	0.11
15	68.66	3.61	0.16	0.26
20	96.50	4.16	0.24	0.48
25	129.74	4.46	0.37	0.77
30	165.75	5.01	0.49	1.07
35	205.61	5.40	0.63	1.46
40	251.27	5.92	0.78	1.96
45	299.64	6.35	1.04	2.49
50	351.91	6.78	1.25	3.10
55	406.00	7.22	1.48	3.80
60	469.66	7.43	1.68	4.45
65	535.25	8.09	1.89	5.33
70	603.15	8.45	2.15	6.11
75	680.11	8.83	2.51	6.99
80	750.68	9.31	2.78	7.94
85	838.52	9.64	3.11	9.24
90	921.47	10.10	3.86	10.13
95	1,011.61	10.47	4.30	11.29
100	1,102.68	10.77	4.76	12.56
105	1,210.76	11.18	5.20	13.72
110	1,306.13	11.74	5.65	15.14
115	1,411.81	12.20	6.13	16.56
120	1,534.02	12.58	6.60	18.07
125	1,639.29	13.15	7.15	19.56
130	1,755.88	13.76	7.67	21.19
135	1,892.40	14.63	8.25	22.77
140	2,010.41	15.14	8.80	24.68
145	2,145.24	15.59	9.41	26.46
150	2332.00	16.26	10.14	28.48
155	2,427.08	16.61	10.67	30.33
160	2,566.14	17.11	11.34	32.87
165	2,716.69	17.53	11.95	34.42
170	2,883.65	17.95	12.64	36.73
175	3,026.86	18.90	15.37	38.69

Table LXVII: Time Information for **no fork 1 up twice**, Host version

Philosophers	Language Processing	Artifact Building	MHP	State Propagation
180	3,194.43	19.39	16.16	41.16
185	3,359.89	19.47	17.15	43.05
190	3,545.29	20.87	17.62	45.44
195	3,709.43	21.11	18.83	47.94
200	3,896.34	21.06	19.57	50.06

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Table LXVIII: Time Information for **p01**

Artists	Language Processing	Artifact Building	MHP	State Propagation
2	25.92	2.85	0.04	0.02
3	33.00	3.10	0.05	0.04
4	41.11	3.43	0.08	0.06
5	50.31	3.80	0.11	0.08
6	59.45	3.97	0.13	0.11
7	69.91	4.32	0.17	0.15
8	81.35	4.52	0.22	0.18
9	95.16	4.70	0.27	0.21
10	106.35	5.02	0.33	0.28
11	119.87	5.30	0.40	0.32
12	134.56	5.54	0.45	0.37
13	150.03	5.94	0.56	0.44
14	166.55	6.03	0.65	0.50
15	183.17	6.51	0.71	0.59
16	200.19	6.97	0.88	0.65
17	222.63	6.91	0.98	0.75
18	248.79	7.25	1.11	0.81
19	265.57	7.55	1.27	0.93
20	283.76	7.83	1.44	1.00
21	304.49	8.09	1.59	1.08
22	327.57	8.38	1.81	1.23
23	352.27	8.88	1.99	1.37
24	376.60	9.17	2.18	1.51
25	401.20	9.27	2.47	1.72
26	438.95	9.73	2.71	1.68
27	471.86	10.12	2.94	1.81
28	500.47	10.38	3.31	1.94
29	523.46	10.62	3.54	2.12

Table LXVIII: Time Information for **p01**

Artists	Language Processing	Artifact Building	MHP	State Propagation
30	548.40	10.89	3.76	2.26
31	575.73	11.12	4.22	2.45
32	605.15	11.55	4.68	2.47
33	639.57	11.70	4.91	2.84
34	679.16	12.14	5.47	2.85
35	735.56	12.47	5.73	3.09
36	777.48	12.80	6.14	3.29
37	816.58	13.12	6.87	3.48
38	844.15	13.26	7.21	3.81
39	877.52	13.74	7.68	3.91
40	903.15	13.89	8.41	4.03
41	937.24	14.29	9.05	4.02
42	976.63	14.70	9.62	4.29
43	1,039.52	14.79	10.18	4.71
44	1,103.74	15.25	11.13	4.49
45	1,155.19	15.48	11.37	5.47
46	1,203.26	16.43	12.53	5.50
47	1,246.21	16.92	13.36	5.60
48	1,283.97	17.09	14.22	5.88
49	1,319.62	18.39	15.10	6.13
50	1,357.23	18.61	15.61	6.14
51	1,410.04	18.97	17.15	6.96
52	1,497.88	19.20	17.90	7.09
53	1,559.43	19.56	18.60	7.92

Table LXIX: Time Information for **p02**

Artists	Language Processing	Artifact Building	MHP	State Propagation
2	25.92	4.02	0.06	0.22
3	33.00	4.54	0.08	0.39
4	41.11	5.22	0.11	0.63
5	50.31	5.63	0.14	0.87
6	59.45	6.41	0.17	1.16
7	69.91	6.82	0.23	1.53
8	81.35	7.25	0.27	1.92
9	95.16	7.86	0.32	2.32
10	106.35	8.62	0.39	2.89
11	119.87	9.39	0.47	3.33
12	134.56	10.10	0.56	3.85

Table LXIX: Time Information for **p02**

Artists	Language Processing	Artifact Building	MHP	State Propagation
13	150.03	10.82	0.65	4.57
14	166.55	11.63	0.74	5.18
15	183.17	12.13	0.84	5.80
16	200.19	13.20	1.01	6.72
17	222.63	13.86	1.17	7.38
18	248.79	14.55	1.26	8.17
19	265.57	15.36	1.46	9.13
20	283.76	16.33	1.60	10.03
21	304.49	16.94	1.78	11.00
22	327.57	18.52	2.03	12.04
23	352.27	18.94	2.24	13.05
24	376.60	19.93	2.43	14.25
25	401.20	21.22	2.76	15.33
26	438.95	21.99	3.07	16.54
27	471.86	23.35	3.23	17.68
28	500.47	24.55	3.63	19.00
29	523.46	25.75	3.94	20.41
30	548.40	26.45	4.17	21.71
31	575.73	27.89	4.74	23.69
32	605.15	28.88	5.14	24.39
33	639.57	29.75	5.22	26.09
34	679.16	30.69	6.03	27.58
35	735.56	35.13	6.41	29.26
36	777.48	33.83	6.78	30.62
37	816.58	35.51	7.42	32.45
38	844.15	36.30	7.93	33.93
39	877.52	37.89	8.23	36.03
40	903.15	39.35	9.05	38.32
41	937.24	40.70	9.65	40.75
42	976.63	42.22	10.23	41.32
43	1,039.52	43.70	11.16	43.48
44	1,103.74	46.90	11.77	46.11
45	1,155.19	46.65	12.29	47.52
46	1,203.26	48.95	13.60	49.53
47	1,246.21	49.28	14.31	51.66
48	1,283.97	52.08	15.18	53.89
49	1,319.62	53.50	16.10	56.35
50	1,357.23	55.15	17.24	58.55
51	1,410.04	56.64	18.25	60.55
52	1,497.88	58.63	19.15	72.31
53	1,559.43	60.51	20.28	65.80

Table LXX: Time Information for **p03**

Artists	Language Processing	Artifact Building	MHP	State Propagation
2	25.92	2.98	0.04	0.03
3	33.00	3.27	0.06	0.04
4	41.11	3.52	0.09	0.07
5	50.31	3.89	0.11	0.10
6	59.45	4.05	0.14	0.14
7	69.91	4.39	0.18	0.18
8	81.35	4.60	0.22	0.23
9	95.16	4.79	0.28	0.27
10	106.35	5.12	0.34	0.34
11	119.87	5.44	0.39	0.42
12	134.56	5.61	0.46	0.46
13	150.03	5.86	0.56	0.53
14	166.55	6.05	0.63	0.65
15	183.17	6.78	0.73	0.71
16	200.19	7.05	0.87	0.81
17	222.63	7.20	0.99	0.89
18	248.79	7.52	1.07	1.04
19	265.57	7.79	1.29	1.09
20	283.76	8.06	1.42	1.21
21	304.49	8.27	1.55	1.36
22	327.57	8.63	1.84	1.47
23	352.27	9.19	1.98	1.62
24	376.60	9.58	2.18	1.73
25	401.20	9.65	2.49	1.81
26	438.95	9.90	2.66	2.11
27	471.86	10.40	2.90	2.22
28	500.47	10.78	3.30	2.31
29	523.46	10.95	3.50	2.54
30	548.40	11.15	3.84	2.65
31	575.73	11.70	4.27	2.93
32	605.15	11.80	4.67	3.09
33	639.57	11.98	5.01	3.25
34	679.16	12.40	5.47	3.29
35	735.56	12.62	5.79	3.69
36	777.48	12.80	6.24	3.88
37	816.58	13.18	6.58	4.11
38	844.15	13.46	7.23	4.36
39	877.52	13.87	7.57	4.69
40	903.15	14.32	8.47	4.54
41	937.24	14.57	8.90	5.20
42	976.63	14.81	9.36	5.47

Table LXX: Time Information for **p03**

Artists	Language Processing	Artifact Building	MHP	State Propagation
43	1,039.52	15.09	10.21	5.63
44	1,103.74	15.51	11.13	5.45
45	1,155.19	16.02	11.41	6.27
46	1,203.26	16.98	12.61	6.34
47	1,246.21	17.39	13.37	6.59
48	1,283.97	17.68	14.17	6.62
49	1,319.62	18.73	15.14	6.97
50	1,357.23	19.08	15.87	7.36
51	1,410.04	19.11	17.03	7.58
52	1,497.88	19.46	17.80	8.34
53	1,559.43	20.69	18.80	8.66

Table LXXI: Time Information for **p04**

Artists	Language Processing	Artifact Building	MHP	State Propagation
2	25.92	2.93	0.04	0.02
3	33.00	3.26	0.06	0.03
4	41.11	3.55	0.08	0.07
5	50.31	3.76	0.11	0.10
6	59.45	4.17	0.13	0.14
7	69.91	4.42	0.18	0.19
8	81.35	4.66	0.22	0.24
9	95.16	4.90	0.27	0.29
10	106.35	5.18	0.34	0.38
11	119.87	5.45	0.40	0.43
12	134.56	5.81	0.47	0.50
13	150.03	6.16	0.55	0.64
14	166.55	6.32	0.65	0.67
15	183.17	6.61	0.74	0.77
16	200.19	6.95	0.90	0.90
17	222.63	7.24	1.00	1.00
18	248.79	7.49	1.12	1.13
19	265.57	7.67	1.33	1.25
20	283.76	8.44	1.47	1.38
21	304.49	8.48	1.60	1.50
22	327.57	9.03	1.87	1.68
23	352.27	9.40	2.04	1.84
24	376.60	9.57	2.24	1.94
25	401.20	9.84	2.51	2.24

Table LXXI: Time Information for **p04**

Artists	Language Processing	Artifact Building	MHP	State Propagation
26	438.95	10.08	2.78	2.42
27	471.86	10.22	3.00	2.48
28	500.47	10.51	3.36	2.82
29	523.46	10.78	3.68	3.05
30	548.40	11.24	3.86	3.32
31	575.73	11.36	4.30	3.61
32	605.15	11.99	4.81	3.65
33	639.57	12.44	4.98	4.00
34	679.16	12.44	5.51	4.36
35	735.56	12.30	5.88	4.53
36	777.48	13.04	6.33	4.89
37	816.58	13.15	7.01	5.08
38	844.15	13.43	7.49	5.30
39	877.52	14.06	7.92	5.71
40	903.15	14.71	8.82	5.80
41	937.24	14.98	9.25	6.34
42	976.63	15.49	9.75	6.60
43	1,039.52	16.07	11.10	6.58
44	1,103.74	16.10	11.53	7.17
45	1,155.19	16.59	11.93	7.76
46	1,203.26	17.46	12.97	8.19
47	1,246.21	17.58	13.87	8.59
48	1,283.97	17.87	14.40	8.76
49	1,319.62	18.43	15.62	9.50
50	1,357.23	18.96	16.40	9.81
51	1,410.04	19.20	16.91	10.52
52	1,497.88	19.68	18.43	10.78
53	1,559.43	20.33	19.38	11.58

Table LXXII: Time Information for **p05**

Artists	Language Processing	Artifact Building	MHP	State Propagation
2	25.92	3.89	0.04	0.11
3	33.00	4.17	0.06	0.25
4	41.11	4.56	0.09	0.56
5	50.31	4.68	0.11	0.91
6	59.45	5.09	0.14	1.39
7	69.91	5.36	0.17	2.22
8	81.35	5.61	0.22	3.10

Table LXXII: Time Information for p05

Artists	Language Processing	Artifact Building	MHP	State Propagation
9	95.16	5.93	0.26	4.14
10	106.35	6.20	0.34	5.72
11	119.87	6.64	0.40	7.41
12	134.56	6.84	0.45	9.14
13	150.03	7.13	0.56	11.73
14	166.55	7.48	0.65	14.33
15	183.17	7.84	0.72	17.13
16	200.19	8.29	0.88	21.12
17	222.63	8.21	0.98	24.80
18	248.79	8.56	1.08	29.11
19	265.57	9.10	1.28	34.28
20	283.76	9.43	1.46	39.59
21	304.49	9.59	1.55	45.17
22	327.57	10.06	1.82	52.06
23	352.27	10.25	1.99	58.92
24	376.60	10.68	2.18	65.88
25	401.20	10.84	2.47	75.35
26	438.95	11.23	2.69	84.48
27	471.86	11.50	2.88	93.01
28	500.47	12.22	3.31	104.54
29	523.46	12.39	3.51	115.58
30	548.40	12.54	3.78	126.39
31	575.73	12.99	4.13	141.51
32	605.15	13.06	4.67	154.95
33	639.57	13.28	4.98	168.56
34	679.16	13.62	5.36	185.74
35	735.56	13.97	5.76	201.54
36	777.48	13.33	6.14	218.18
37	816.58	13.63	6.66	238.13
38	844.15	13.99	7.26	256.90
39	877.52	14.10	7.81	275.80
40	903.15	14.65	8.51	299.67
41	937.24	15.50	8.91	321.03
42	976.63	15.95	9.28	342.03
43	1,039.52	16.21	10.16	373.43
44	1,103.74	16.47	11.16	394.99
45	1,155.19	17.10	11.78	419.03
46	1,203.26	17.26	12.53	450.79
47	1,246.21	17.68	13.43	478.39
48	1,283.97	17.90	14.27	504.74
49	1,319.62	18.52	15.10	540.93

Table LXXII: Time Information for **p05**

Artists	Language Processing	Artifact Building	MHP	State Propagation
50	1,357.23	18.79	15.76	572.99
51	1,410.04	19.22	17.18	605.57
52	1,497.88	19.47	17.71	647.38
53	1,559.43	19.79	19.02	678.12

Table LXXIII: Time Information for **p06**

Artists	Language Processing	Artifact Building	MHP	State Propagation
2	25.92	2.97	0.04	0.02
3	33.00	3.21	0.05	0.04
4	41.11	3.59	0.08	0.07
5	50.31	3.73	0.11	0.08
6	59.45	4.09	0.14	0.10
7	69.91	4.39	0.18	0.15
8	81.35	4.61	0.22	0.19
9	95.16	4.88	0.27	0.21
10	106.35	5.23	0.33	0.27
11	119.87	5.61	0.40	0.32
12	134.56	5.88	0.45	0.38
13	150.03	6.23	0.56	0.44
14	166.55	6.46	0.64	0.52
15	183.17	6.75	0.72	0.58
16	200.19	7.06	0.87	0.66
17	222.63	7.34	0.99	0.74
18	248.79	7.61	1.10	0.79
19	265.57	8.10	1.27	0.93
20	283.76	8.67	1.40	1.04
21	304.49	8.73	1.56	1.11
22	327.57	9.09	1.79	1.23
23	352.27	9.34	1.97	1.33
24	376.60	10.03	2.16	1.47
25	401.20	9.86	2.46	1.53
26	438.95	10.19	2.69	1.69
27	471.86	10.74	2.92	1.79
28	500.47	10.61	3.29	1.97
29	523.46	11.26	3.54	2.20
30	548.40	11.64	3.80	2.18
31	575.73	11.90	4.24	2.29
32	605.15	12.21	4.56	2.55

Table LXXIII: Time Information for **p06**

Artists	Language Processing	Artifact Building	MHP	State Propagation
33	639.57	12.40	4.88	2.76
34	679.16	13.10	5.41	2.90
35	735.56	13.55	5.64	3.19
36	777.48	13.66	6.13	3.39
37	816.58	14.18	6.71	3.59
38	844.15	14.37	7.19	3.59
39	877.52	14.48	7.62	3.93
40	903.15	14.59	8.39	4.00
41	937.24	14.82	8.83	4.26
42	976.63	15.07	9.70	4.02
43	1,039.52	15.47	10.34	4.30
44	1,103.74	15.95	11.07	4.85
45	1,155.19	16.47	11.65	4.75
46	1,203.26	17.17	12.77	5.14
47	1,246.21	17.77	13.30	5.43
48	1,283.97	17.61	14.12	5.36
49	1,319.62	18.42	15.18	6.07
50	1,357.23	19.32	15.99	6.51
51	1,410.04	19.67	16.81	6.27
52	1,497.88	20.47	17.47	7.16
53	1,559.43	19.85	19.37	7.06

Table LXXIV: Time Information for **p07**

Artists	Language Processing	Artifact Building	MHP	State Propagation
2	25.92	4.48	0.06	0.13
3	33.00	4.77	0.08	0.21
4	41.11	5.20	0.11	0.35
5	50.31	5.48	0.14	0.46
6	59.45	5.77	0.16	0.63
7	69.91	6.14	0.21	0.84
8	81.35	6.41	0.26	1.01
9	95.16	6.73	0.31	1.25
10	106.35	6.94	0.40	1.52
11	119.87	7.28	0.47	1.75
12	134.56	7.46	0.54	2.02
13	150.03	7.98	0.64	2.42
14	166.55	8.21	0.74	2.74
15	183.17	8.53	0.83	3.06

Table LXXIV: Time Information for p07

Artists	Language Processing	Artifact Building	MHP	State Propagation
16	200.19	8.88	0.97	3.56
17	222.63	9.17	1.13	3.89
18	248.79	9.51	1.25	4.27
19	265.57	9.69	1.43	4.82
20	283.76	9.98	1.62	5.31
21	304.49	10.31	1.75	5.73
22	327.57	10.93	2.02	6.41
23	352.27	11.17	2.44	6.94
24	376.60	11.30	2.41	7.36
25	401.20	11.66	2.72	8.07
26	438.95	12.09	2.97	8.73
27	471.86	12.83	3.19	9.33
28	500.47	12.96	3.62	9.90
29	523.46	13.20	3.97	10.68
30	548.40	14.01	4.11	11.40
31	575.73	13.75	4.61	12.20
32	605.15	14.23	4.93	13.06
33	639.57	14.55	5.24	13.72
34	679.16	14.77	5.84	14.57
35	735.56	15.08	6.29	15.48
36	777.48	15.65	6.63	16.24
37	816.58	15.80	7.31	17.06
38	844.15	16.04	7.95	18.64
39	877.52	16.34	8.42	18.71
40	903.15	16.72	8.94	19.88
41	937.24	16.87	9.65	21.01
42	976.63	17.64	10.05	21.95
43	1,039.52	17.59	11.26	22.81
44	1,103.74	18.33	11.87	23.72
45	1,155.19	18.80	12.49	25.07
46	1,203.26	18.62	13.45	26.14
47	1,246.21	19.90	14.21	27.39
48	1,283.97	20.04	15.25	28.84
49	1,319.62	20.42	16.35	29.57
50	1,357.23	20.96	17.21	31.02
51	1,410.04	21.19	17.49	32.42
52	1,497.88	22.27	18.70	33.91
53	1,559.43	21.92	19.89	34.84

Table LXXV: Time Information for **p08**

Artists	Language Processing	Artifact Building	MHP	State Propagation
2	25.92	3.42	0.06	0.23
3	33.00	3.69	0.08	0.38
4	41.11	4.20	0.11	0.64
5	50.31	4.34	0.15	0.86
6	59.45	4.62	0.18	1.14
7	69.91	4.93	0.22	1.55
8	81.35	5.17	0.28	1.91
9	95.16	5.54	0.32	2.34
10	106.35	5.83	0.41	2.86
11	119.87	6.21	0.47	3.36
12	134.56	6.43	0.55	3.87
13	150.03	6.76	0.67	4.54
14	166.55	7.10	0.77	5.14
15	183.17	7.33	0.84	5.87
16	200.19	7.75	1.01	6.67
17	222.63	7.96	1.13	7.38
18	248.79	8.19	1.27	8.11
19	265.57	8.39	1.47	9.25
20	283.76	8.78	1.62	10.00
21	304.49	9.33	1.78	11.44
22	327.57	9.77	2.05	12.19
23	352.27	9.86	2.25	13.06
24	376.60	10.41	2.45	14.17
25	401.20	10.50	2.79	15.36
26	438.95	11.05	3.05	16.40
27	471.86	11.35	3.29	17.54
28	500.47	11.60	3.62	19.13
29	523.46	12.37	4.02	20.34
30	548.40	12.36	4.24	21.55
31	575.73	12.66	4.58	23.32
32	605.15	12.92	5.01	24.62
33	639.57	13.17	5.54	25.75
34	679.16	13.49	5.99	27.64
35	735.56	13.70	6.38	29.11
36	777.48	14.05	6.65	30.63
37	816.58	15.21	7.27	32.87
38	844.15	15.31	8.01	34.02
39	877.52	15.57	8.47	35.73
40	903.15	15.93	9.18	38.47
41	937.24	16.35	9.72	40.01
42	976.63	16.92	10.20	41.05

Table LXXV: Time Information for **p08**

Artists	Language Processing	Artifact Building	MHP	State Propagation
43	1,039.52	17.12	11.09	43.35
44	1,103.74	17.43	11.75	45.73
45	1,155.19	17.91	12.58	47.62
46	1,203.26	18.98	13.61	49.81
47	1,246.21	19.05	14.43	51.57
48	1,283.97	19.72	15.30	53.94
49	1,319.62	19.93	16.35	56.35
50	1,357.23	19.97	16.66	58.18
51	1,410.04	21.17	18.02	60.34
52	1,497.88	21.20	19.06	63.36
53	1,559.43	21.33	20.00	66.32

Table LXXVI: Time Information for **p09**

Artists	Language Processing	Artifact Building	MHP	State Propagation
2	25.92	2.94	0.04	0.17
3	33.00	3.43	0.06	0.40
4	41.11	3.93	0.08	0.97
5	50.31	4.53	0.11	1.67
6	59.45	5.16	0.14	2.63
7	69.91	6.19	0.18	4.47
8	81.35	7.60	0.22	6.45
9	95.16	9.29	0.26	8.79
10	106.35	10.98	0.33	12.94
11	119.87	13.82	0.40	17.05
12	134.56	17.04	0.46	21.57
13	150.03	22.16	0.56	29.46
14	166.55	27.82	0.66	36.57
15	183.17	33.62	0.73	44.36
16	200.19	41.13	0.87	57.45
17	222.63	50.41	0.99	68.88
18	248.79	62.27	1.11	81.58
19	265.57	75.11	1.28	101.33
20	283.76	87.47	1.45	118.36
21	304.49	108.19	1.61	136.69
22	327.57	126.75	1.80	166.55
23	352.27	146.50	2.00	191.00
24	376.60	173.60	2.20	216.71
25	401.20	202.15	2.50	257.35

Table LXXVI: Time Information for **p09**

Artists	Language Processing	Artifact Building	MHP	State Propagation
26	438.95	226.92	2.74	290.15
27	471.86	262.87	2.97	325.25
28	500.47	312.53	3.34	381.53
29	523.46	351.55	3.64	427.48
30	548.40	403.72	3.86	474.77
31	575.73	463.19	4.21	544.74
32	605.15	518.15	4.67	601.98
33	639.57	588.80	4.86	662.02
34	679.16	661.63	5.49	753.76
35	735.56	732.70	6.07	830.42
36	777.48	823.63	6.27	906.88
37	816.58	912.85	6.74	1,034.28
38	844.15	1,013.20	7.18	1,115.53
39	877.52	1,118.63	7.81	1,206.09
40	903.15	1,223.29	8.73	1,348.02
41	937.24	1,343.82	8.94	1,472.28
42	976.63	1,479.51	9.60	1,584.34
43	1,039.52	1,605.99	10.40	1,755.51
44	1,103.74	1,771.38	11.30	1,886.70
45	1,155.19	1,885.73	11.78	2,027.31
46	1,203.26	2,049.64	12.60	2,237.45
47	1,246.21	2,211.06	13.61	2,407.69
48	1,283.97	2,340.59	14.23	2,574.30
49	1,319.62	2,503.58	15.13	2,816.58
50	1,357.23	2,718.73	16.34	3,041.40
51	1,410.04	2,900.59	17.14	3,206.87
52	1,497.88	3,150.98	18.71	3,507.05
53	1,559.43	3,359.25	19.27	3,748.24