CS 425 - Distributed Systems
MP2 - REPORT

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TO COMPILE CODE RUN FOLLOWING COMMAND ON TERMINAL
python chord.py -g test.txt

TO READ FROM THE FILE
cat test.txt

The algorithm can support up to 256 nodes including node 0 which is present at the time the code starts and never drops.

One operation is to be performed at one time.

A separate thread reads from the command line so you can type while the code proceeds.

The commands supported are:
join p
find p k
leave p
show p - prints to file 'test.txt'
show all - prints to file 'test.txt'

PERFORMANCE EVALUATION
Running the experiment for P = 4, 8, 10, 20, 30 for N = 5 on join and find
The packets are the total number of packets upto the point and the average of them is at the end of the table.

join	P	packets
1	6	28
2	48	106
3	158	181
4	219	249
	AVG	62.25

join	P	packets
1	47	46
2	87	124
3	20	186
4	225	301
	AVG	75.25

join	P	packets
1	90	52
2	63	111
3	16	171
4	186	274
	AVG	68.5

join	P	packets
1	190	63
2	35	137
3	250	201
4	2	262
	AVG	65.5

join	P	packets
1	51	46
2	9	100
3	66	175
4	149	282
	AVG	70.5

join	P	packets
1	67	52
2	92	122
3	9	186
4	123	290
5	205	402
6	20	512
7	189	637
8	72	750
	AVG	93.75

join	P	packets
1	23	40
2	78	120
3	124	202
4	5	284
5	234	368
6	97	461
7	174	575
8	140	694
	AVG	86.75

join	P	packets
1	30	40
2	83	120
3	14	183
4	59	272
5	150	377
6	222	455
7	254	563
8	187	667
	AVG	83.375

join	P	packets
1	91	52
2	30	109
3	210	181
4	156	279
5	104	375
6	71	481
7	180	586
8	2	676
	AVG	84.5

join	P	packets
1	45	46
2	67	117
3	125	202
4	163	297
5	239	401
6	1	482
7	200	578
8	51	691
	AVG	86.375

join	P	packets
1	54	46

join	P	packets
1	64	46

join	P	packets
1	93	52

join	P	packets
1	83	52

join	P	packets
1	92	52

2	10	101
3	91	184
4	100	261
5	82	361
6	149	496
7	103	596
8	205	703
9	249	831
10	34	965
	AVG	96.5

2	92	118
3	16	178
4	46	275
5	26	368
6	254	457
7	152	556
8	167	677
9	231	796
10	72	910
	AVG	91.0

2	16	107
3	36	190
4	74	279
5	37	360
6	127	472
7	242	578
8	91	685
9	173	800
10	15	916
	AVG	91.6

2	15	107
3	26	182
4	21	256
5	124	343
6	167	455
7	215	553
8	49	664
9	200	774
10	5	890
	AVG	89.0

2	34	111
3	27	173
4	62	262
5	111	347
6	222	439
7	187	555
8	48	681
9	28	785
10	52	917
	AVG	91.7

join	P	time
1	23	40
2	14	95
3	187	208
4	29	290
5	13	375
6	241	460
7	3	550
8	111	703
9	143	821
10	32	944
11	21	1093
12	86	1290
13	43	1460
14	12	1592
15	36	1749
16	231	1869
17	81	2024
18	11	2191
19	53	23572
20	28	2549
	AVG	127.45

join	P	time
1	34	46
2	6	99
3	26	186
4	53	263
5	14	346
6	62	436
7	47	541
8	15	643
9	22	748
10	74	878
11	21	991
12	36	1098
13	32	1246
14	73	1393
15	25	1548
16	63	1665
17	83	1769
18	126	1923
19	215	2053
20	56	2202
	AVG	110.1

join	P	time
1	23	40
2	63	114
3	51	195
4	37	279
5	62	388
6	33	497
7	26	605
8	127	781
9	221	895
10	69	1024
11	16	1127
12	31	1282
13	42	1412
14	83	1550
15	163	1669
16	226	1769
17	84	1893
18	22	2040
19	129	2140
20	210	2286
	AVG	114.3

join	P	time
1	53	46
2	58	100
3	22	166
4	17	244
5	84	358
6	35	469
7	73	603
8	121	729
9	255	915
10	251	1112
11	93	1241
12	56	1380
13	72	1557
14	83	1686
15	94	1815
16	74	1957
17	6	2074
18	63	2224
19	43	2350
20	16	2487
	AVG	124.35

join	P	time
1	62	46
2	37	105
3	72	201
4	46	286
5	31	367
6	36	459
7	32	539
8	222	675
9	42	802
10	125	919
11	64	1056
12	131	1163
13	14	1258
14	252	1379
15	26	1506
16	242	1618
17	132	1725
18	121	1911
19	253	2040
20	191	2206
	AVG	110.3

join	P	time
1	32	40
2	62	108
3	72	184
4	36	251
5	30	339
6	125	429
7	216	521
8	221	599
9	252	734
10	131	843
11	241	974
12	82	1109
13	35	1247

join	P	time
1	63	46
2	46	105
3	61	187
4	26	265
5	146	408
6	52	492
7	41	589
8	73	725
9	42	817
10	56	930
11	72	1072
12	27	1147
13	163	1257

join	P	time
1	93	52
2	23	109
3	41	190
4	63	275
5	141	370
6	36	464
7	163	559
8	42	657
9	223	769
10	134	889
11	221	1033
12	193	1159
13	26	1283

join	P	time
1	93	52
2	45	111
3	123	191
4	65	281
5	34	362
6	68	467
7	245	574
8	62	712
9	74	838
10	26	957
11	5	1056
12	3	1153
13	55	1306

join	P	time
1	53	46
2	58	100
3	22	166
4	37	258
5	85	389
6	63	509
7	124	611
8	246	715
9	253	817
10	84	951
11	24	1051
12	38	1154
13	52	1309

14	162	1396
15	73	1528
16	47	1682
17	42	1826
18	83	1960
19	211	2125
20	160	2281
21	81	2442
22	29	2647
23	25	2831
24	53	3003
25	16	3171
26	44	3330
27	142	3483
28	176	3677
29	33	3885
30	52	4077
	AVG	135.9

14	34	1386
15	93	1515
16	126	1681
17	159	1809
18	173	1952
19	215	2117
20	251	2253
21	211	2439
22	155	2599
23	197	2809
24	39	3000
25	83	3165
26	31	3329
27	94	3466
28	172	3668
29	198	3858
30	242	4024
	AVG	134.13

14	35	1453
15	62	1609
16	72	1757
17	52	1909
18	47	2074
19	152	2235
20	236	2378
21	43	2556
22	74	2694
23	147	2861
24	53	3036
25	226	3176
26	142	3318
27	247	3464
28	64	3645
29	153	3800
30	32	3990
	AVG	133

14	82	1446
15	47	1593
16	57	1754
17	42	1920
18	17	2068
19	83	2196
20	242	2353
21	174	2494
22	73	2667
23	126	2819
24	247	2946
25	164	3121
26	127	3277
27	175	3398
28	142	3580
29	173	3721
30	25	3902
	AVG	130.06

14	162	1427
15	66	1552
16	184	1701
17	47	1862
18	138	1999
19	92	2160
20	26	2304
21	147	2457
22	43	2627
23	222	2801
24	11	2940
25	15	3091
26	5	3225
27	95	3375
28	163	3510
29	238	3667
30	91	3866
	AVG	128.86

find	P	k	packets
1	53	63	6
2	58	2	16
3	22	46	22
4	37	198	28
5	85	75	46
6	63	35	64
7	124	45	78
8	246	97	91
9	253	227	101
10	84	158	111
11	24	36	117
12	38	73	130
13	52	31	151
14	162	124	165
15	66	173	175
16	184	251	185
17	47	64	191
18	138	4	200
19	92	65	214
20	26	222	224
21	147	83	242
22	43	157	252
23	222	36	266
24	11	74	280
25	15	254	298
26	5	84	312
27	95	7	326

28	163	37	340
29	238	22	346
30	91	237	352
31	53	52	369
32	58	34	387
33	22	173	393
34	37	11	407
35	85	62	424
36	63	76	430
37	124	59	448
38	246	94	462
39	253	39	468
40	84	136	474
41	24	153	488
42	38	29	510
43	52	238	520
44	162	38	525
45	66	137	531
46	184	52	545
47	47	84	555
48	138	47	565
49	92	234	571
50	26	84	584
51	147	68	602
52	43	84	612
53	222	37	626
54	11	63	640
55	15	169	650
56	5	27	660
57	95	95	682
58	163	183	686
59	238	124	699
60	91	253	709
61	26	2	722
62	162	85	732
63	52	24	750
64	47	168	760
		AVG	11.875