

LINEAR PROBE WITH ALPHA = 0. 659164
Iteration: 1

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LOCATION	KEY	PROBES
0	-9999	0
1	-9999	0
2	-9999	0
3	-9999	0
4	-9999	0
5	4359	1
6	-9999	0
7	-9999	0
8	8	1
9	631	1
10	-9999	0
11	-9999	0
12	-9999	0
13	1568	1
14	635	2
15	-9999	0
16	2815	1
17	4060	1
18	2195	1
19	638	4
20	3438	4
21	4686	1
22	640	5
23	-9999	0
24	-9999	0
25	4068	1
26	648	1
27	338	1
28	-9999	0
29	-9999	0
30	3451	1
31	4695	2
32	-9999	0
33	966	1
34	-9999	0
35	1279	1
36	1280	1
37	4078	3
38	1593	1
39	1282	2
40	-9999	0
41	-9999	0

42	-9999	0
43	3464	1
44	-9999	0
45	-9999	0
46	-9999	0
47	980	1
48	-9999	0
49	2848	1
50	3470	2
51	-9999	0
52	4095	1
53	3785	1
54	676	1
55	-9999	0
56	2855	1
57	2545	1
58	2546	1
59	4724	1
60	4411	4
61	-9999	0
62	-9999	0
63	2551	1
64	1930	1
65	2241	2
66	1932	1
67	685	5
68	-9999	0
69	1935	1
70	-9999	0
71	2870	1
72	382	2
73	-9999	0
74	-9999	0
75	-9999	0
76	2564	1
77	1632	1
78	-9999	0
79	1012	1
80	3189	2
81	3813	1
82	82	1
83	1638	1
84	2261	1
85	4128	1
86	396	2
87	1641	2
88	-9999	0

89	4443	1
90	712	1
91	401	2
92	1336	1
93	3514	1
94	93	2
95	2272	1
96	4450	1
97	1959	5
98	4141	1
99	4133	10
100	1033	1
101	3211	1
102	724	1
103	3213	1
104	4147	1
105	2904	1
106	1969	4
107	107	1
108	416	4
109	1349	5
110	110	1
111	4772	5
112	730	5
113	4144	13
114	425	1
115	1669	2
116	3846	3
117	736	4
118	421	9
119	3840	12
120	1364	1
121	2608	2
122	728	17
123	2913	10
124	-9999	0
125	-9999	0
126	1059	1
127	3859	1
128	128	1
129	2928	1
130	2927	3
131	1996	2
132	1687	1
133	755	1
134	445	1
135	757	1

136	748	11
137	3868	2
138	2004	1
139	-9999	0
140	1384	1
141	2628	2
142	-9999	0
143	4497	1
144	-9999	0
145	-9999	0
146	2945	1
147	-9999	0
148	148	1
149	2014	2
150	-9999	0
151	-9999	0
152	-9999	0
153	-9999	0
154	4197	1
155	-9999	0
156	467	1
157	4822	1
158	158	1
159	3889	3
160	4200	4
161	2027	1
162	2335	5
163	3273	1
164	-9999	0
165	-9999	0
166	1099	1
167	-9999	0
168	-9999	0
169	-9999	0
170	-9999	0
171	-9999	0
172	-9999	0
173	484	1
174	4839	1
175	-9999	0
176	2353	1
177	2354	1
178	800	1
179	-9999	0
180	-9999	0
181	1425	1
182	2358	2

183	1116	1
184	2050	1
185	-9999	0
186	2985	1
187	-9999	0
188	3298	1
189	-9999	0
190	2056	1
191	2367	2
192	3302	1
193	504	1
194	2371	1
195	505	2
196	3614	4
197	2685	1
198	1748	6
199	1132	1
200	-9999	0
201	-9999	0
202	-9999	0
203	-9999	0
204	-9999	0
205	4248	1
206	205	2
207	517	2
208	3940	1
209	-9999	0
210	-9999	0
211	4876	1
212	-9999	0
213	-9999	0
214	-9999	0
215	1148	1
216	1460	1
217	2704	2
218	4880	4
219	-9999	0
220	-9999	0
221	1154	1
222	-9999	0
223	-9999	0
224	1157	1
225	4579	1
226	-9999	0
227	2093	1
228	1161	1
229	539	2

230	3962	1
231	1785	2
232	1165	1
233	2720	2
234	2100	1
235	3031	4
236	-9999	0
237	237	1
238	-9999	0
239	-9999	0
240	-9999	0
241	-9999	0
242	553	1
243	-9999	0
244	-9999	0
245	1489	1
246	1490	1
247	-9999	0
248	-9999	0
249	3359	1
250	-9999	0
251	3050	1
252	2740	1
253	-9999	0
254	1187	1
255	2743	1
256	2121	2
257	879	1
258	1502	1
259	4610	4
260	3059	1
261	-9999	0
262	-9999	0
263	-9999	0
264	264	1
265	265	1
266	-9999	0
267	-9999	0
268	1201	1
269	2757	1
270	3691	1
271	4622	4
272	2134	5
273	2447	4
274	1829	1
275	891	7
276	2759	6

277	1832	1
278	4942	2
279	586	5
280	2457	1
281	4321	4
282	2148	1
283	905	1
284	1839	1
285	4950	1
286	-9999	0
287	3708	1
288	-9999	0
289	-9999	0
290	-9999	0
291	2779	1
292	-9999	0
293	-9999	0
294	-9999	0
295	-9999	0
296	3406	1
297	3718	1
298	2474	2
299	2785	3
300	-9999	0
301	2478	1
302	-9999	0
303	4968	1
304	-9999	0
305	-9999	0
306	-9999	0
307	2173	1
308	-9999	0
309	3419	1
310	4974	2

Avg # of probes: 2 0.02

LINEAR PROBE WITH ALPHA = 0. 804

Iteration: 1

=====

LOCATION	KEY	PROBES
	0	-9999 0
	1	3733 1
	2	-9999 0
	3	936 1
	4	-9999 0

5	4359	1
6	-9999	0
7	-9999	0
8	8	1
9	631	1
10	-9999	0
11	-9999	0
12	-9999	0
13	1568	1
14	635	2
15	-9999	0
16	2815	1
17	4060	1
18	2195	1
19	638	4
20	3438	4
21	4686	1
22	640	5
23	4061	6
24	335	1
25	4068	1
26	648	1
27	338	1
28	-9999	0
29	-9999	0
30	3451	1
31	4695	2
32	1275	2
33	966	1
34	3763	4
35	1279	1
36	1280	1
37	4078	3
38	1593	1
39	1282	2
40	1904	3
41	-9999	0
42	-9999	0
43	3464	1
44	-9999	0
45	-9999	0
46	1601	1
47	980	1
48	-9999	0
49	2848	1
50	3470	2
51	-9999	0

52	4095	1
53	3785	1
54	676	1
55	-9999	0
56	2855	1
57	2545	1
58	2546	1
59	4724	1
60	4411	4
61	-9999	0
62	684	1
63	2551	1
64	1930	1
65	2241	2
66	1932	1
67	685	5
68	4107	5
69	1935	1
70	-9999	0
71	2870	1
72	382	2
73	72	2
74	385	1
75	-9999	0
76	2564	1
77	1632	1
78	-9999	0
79	1012	1
80	3189	2
81	3813	1
82	82	1
83	1638	1
84	2261	1
85	4128	1
86	396	2
87	1641	2
88	2575	2
89	4443	1
90	712	1
91	401	2
92	1336	1
93	3514	1
94	93	2
95	2272	1
96	4450	1
97	1959	5
98	4141	1

99	4133	10
100	1033	1
101	3211	1
102	724	1
103	3213	1
104	4147	1
105	2904	1
106	1969	4
107	107	1
108	416	4
109	1349	5
110	110	1
111	4772	5
112	730	5
113	4144	13
114	425	1
115	1669	2
116	3846	3
117	736	4
118	421	9
119	3840	12
120	1364	1
121	2608	2
122	728	17
123	2913	10
124	2577	36
125	3206	30
126	1059	1
127	3859	1
128	128	1
129	2928	1
130	2927	3
131	1996	2
132	1687	1
133	755	1
134	445	1
135	757	1
136	748	11
137	3868	2
138	2004	1
139	4177	6
140	1384	1
141	2628	2
142	1993	16
143	4497	1
144	4767	43
145	2590	44

146	2945	1
147	-9999	0
148	148	1
149	2014	2
150	-9999	0
151	462	1
152	-9999	0
153	-9999	0
154	4197	1
155	-9999	0
156	467	1
157	4822	1
158	158	1
159	3889	3
160	4200	4
161	2027	1
162	2335	5
163	3273	1
164	2962	2
165	2341	2
166	1099	1
167	3585	4
168	2656	1
169	169	1
170	4211	3
171	-9999	0
172	-9999	0
173	484	1
174	4839	1
175	-9999	0
176	2353	1
177	2354	1
178	800	1
179	1109	4
180	-9999	0
181	1425	1
182	2358	2
183	1116	1
184	2050	1
185	-9999	0
186	2985	1
187	-9999	0
188	3298	1
189	-9999	0
190	2056	1
191	2367	2
192	3302	1

193	504	1
194	2371	1
195	505	2
196	3614	4
197	2685	1
198	1748	6
199	1132	1
200	2997	3
201	502	11
202	-9999	0
203	-9999	0
204	-9999	0
205	4248	1
206	205	2
207	517	2
208	3940	1
209	520	1
210	-9999	0
211	4876	1
212	3010	2
213	-9999	0
214	-9999	0
215	1148	1
216	1460	1
217	2704	2
218	4880	4
219	-9999	0
220	-9999	0
221	1154	1
222	-9999	0
223	-9999	0
224	1157	1
225	4579	1
226	-9999	0
227	2093	1
228	1161	1
229	539	2
230	3962	1
231	1785	2
232	1165	1
233	2720	2
234	2100	1
235	3031	4
236	3029	7
237	237	1
238	4583	10
239	1481	3

240	-9999	0
241	-9999	0
242	553	1
243	4597	1
244	-9999	0
245	1489	1
246	1490	1
247	867	3
248	-9999	0
249	3359	1
250	1804	2
251	3050	1
252	2740	1
253	-9999	0
254	1187	1
255	2743	1
256	2121	2
257	879	1
258	1502	1
259	4610	4
260	3059	1
261	-9999	0
262	573	1
263	262	2
264	264	1
265	265	1
266	-9999	0
267	-9999	0
268	1201	1
269	2757	1
270	3691	1
271	4622	4
272	2134	5
273	2447	4
274	1829	1
275	891	7
276	2759	6
277	1832	1
278	4942	2
279	586	5
280	2457	1
281	4321	4
282	2148	1
283	905	1
284	1839	1
285	4950	1
286	4939	13

287	3708	1
288	287	2
289	-9999	0
290	-9999	0
291	2779	1
292	-9999	0
293	-9999	0
294	-9999	0
295	-9999	0
296	3406	1
297	3718	1
298	2474	2
299	2785	3
300	1231	3
301	2478	1
302	3412	1
303	4968	1
304	615	1
305	-9999	0
306	3105	1
307	2173	1
308	-9999	0
309	3419	1
310	4974	2

Avg # of probes: 2 0.816

DOUBLE HASH WITH A LPHA 0.659

Iteration: 1

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LOCATION	KEY	PROBES
0	-9999	0
1	-9999	0
2	-9999	0
3	4974	2
4	2785	4
5	4359	1
6	-9999	0
7	-9999	0
8	8	1
9	631	1
10	-9999	0
11	-9999	0
12	-9999	0
13	1568	1
14	-9999	0

15	-9999	0
16	2815	1
17	4060	1
18	2195	1
19	635	2
20	640	3
21	4686	1
22	-9999	0
23	-9999	0
24	-9999	0
25	4068	1
26	648	1
27	338	1
28	-9999	0
29	-9999	0
30	3451	1
31	-9999	0
32	-9999	0
33	966	1
34	638	3
35	1279	1
36	1280	1
37	-9999	0
38	1593	1
39	-9999	0
40	-9999	0
41	1282	2
42	4695	3
43	3464	1
44	3438	4
45	-9999	0
46	-9999	0
47	980	1
48	-9999	0
49	2848	1
50	3470	2
51	-9999	0
52	4095	1
53	3785	1
54	676	1
55	-9999	0
56	2855	1
57	2545	1
58	2546	1
59	4724	1
60	-9999	0
61	4411	3

62	4078	4
63	2551	1
64	1930	1
65	-9999	0
66	2241	2
67	-9999	0
68	-9999	0
69	1935	1
70	-9999	0
71	2870	1
72	1932	3
73	-9999	0
74	382	2
75	685	3
76	2564	1
77	1632	1
78	-9999	0
79	1012	1
80	-9999	0
81	3813	1
82	82	1
83	1638	1
84	2261	1
85	4128	1
86	1641	1
87	-9999	0
88	-9999	0
89	4443	1
90	712	1
91	-9999	0
92	401	2
93	3514	1
94	4133	2
95	2272	1
96	4450	1
97	93	2
98	4141	1
99	1336	2
100	1033	1
101	3211	1
102	724	1
103	3213	1
104	4147	1
105	2904	1
106	396	4
107	107	1
108	730	1

109	3189	4
110	110	1
111	4144	3
112	416	2
113	1969	2
114	425	1
115	1349	2
116	4772	4
117	3840	10
118	421	5
119	-9999	0
120	1364	1
121	3846	2
122	2913	3
123	1959	4
124	1669	2
125	-9999	0
126	1059	1
127	3859	1
128	128	1
129	2928	1
130	1996	1
131	-9999	0
132	1687	1
133	755	1
134	445	1
135	736	4
136	2927	2
137	-9999	0
138	2004	1
139	-9999	0
140	1384	1
141	-9999	0
142	728	5
143	4497	1
144	748	3
145	3868	2
146	2945	1
147	2608	4
148	148	1
149	2628	2
150	-9999	0
151	757	3
152	-9999	0
153	2014	2
154	4197	1
155	-9999	0

156	467	1
157	4822	1
158	158	1
159	4200	3
160	-9999	0
161	2027	1
162	-9999	0
163	3273	1
164	2335	2
165	-9999	0
166	1099	1
167	3889	2
168	-9999	0
169	-9999	0
170	-9999	0
171	-9999	0
172	-9999	0
173	484	1
174	4839	1
175	-9999	0
176	2353	1
177	2354	1
178	800	1
179	-9999	0
180	-9999	0
181	1425	1
182	-9999	0
183	1116	1
184	2050	1
185	-9999	0
186	2985	1
187	-9999	0
188	3298	1
189	-9999	0
190	2358	2
191	-9999	0
192	3302	1
193	504	1
194	2371	1
195	-9999	0
196	-9999	0
197	2685	1
198	2367	2
199	1132	1
200	505	2
201	-9999	0
202	1748	2

203	3614	3
204	2056	3
205	4248	1
206	517	1
207	-9999	0
208	3940	1
209	-9999	0
210	-9999	0
211	4876	1
212	-9999	0
213	-9999	0
214	-9999	0
215	1148	1
216	1460	1
217	4880	3
218	-9999	0
219	-9999	0
220	-9999	0
221	1154	1
222	-9999	0
223	205	4
224	1157	1
225	4579	1
226	2704	3
227	2093	1
228	1161	1
229	-9999	0
230	3962	1
231	-9999	0
232	1165	1
233	2720	2
234	2100	1
235	-9999	0
236	1785	2
237	237	1
238	3031	4
239	-9999	0
240	-9999	0
241	-9999	0
242	553	1
243	-9999	0
244	-9999	0
245	1489	1
246	1490	1
247	-9999	0
248	539	3
249	3359	1

250	-9999	0
251	3050	1
252	2740	1
253	-9999	0
254	1187	1
255	2743	1
256	4610	1
257	879	1
258	1502	1
259	2121	3
260	3059	1
261	-9999	0
262	-9999	0
263	-9999	0
264	264	1
265	265	1
266	-9999	0
267	-9999	0
268	1201	1
269	2757	1
270	3691	1
271	4622	2
272	-9999	0
273	2134	2
274	1829	1
275	891	4
276	-9999	0
277	1832	1
278	2447	2
279	-9999	0
280	4942	2
281	2759	2
282	2148	1
283	905	1
284	1839	1
285	4950	1
286	4321	5
287	3708	1
288	2457	2
289	586	3
290	-9999	0
291	2779	1
292	-9999	0
293	-9999	0
294	-9999	0
295	-9999	0
296	3406	1

297	3718	1
298	-9999	0
299	-9999	0
300	-9999	0
301	2478	1
302	2474	2
303	4968	1
304	-9999	0
305	-9999	0
306	-9999	0
307	2173	1
308	-9999	0
309	3419	1
310	-9999	0

Avg # of probes: 1 0.62

DOUBLE HASH WITH A LPHA 0.804

Iteration: 1

=====

LOCATION	KEY	PROBES
0	-9999	0
1	3733	1
2	-9999	0
3	4974	2
4	2785	4
5	4359	1
6	-9999	0
7	-9999	0
8	8	1
9	631	1
10	936	2
11	-9999	0
12	-9999	0
13	1568	1
14	-9999	0
15	-9999	0
16	2815	1
17	4060	1
18	2195	1
19	635	2
20	640	3
21	4686	1
22	4061	3
23	-9999	0
24	335	1

25	4068	1
26	648	1
27	338	1
28	-9999	0
29	-9999	0
30	3451	1
31	1275	1
32	-9999	0
33	966	1
34	638	3
35	1279	1
36	1280	1
37	-9999	0
38	1593	1
39	3763	3
40	-9999	0
41	1282	2
42	4695	3
43	3464	1
44	3438	4
45	-9999	0
46	1601	1
47	980	1
48	1904	3
49	2848	1
50	3470	2
51	-9999	0
52	4095	1
53	3785	1
54	676	1
55	-9999	0
56	2855	1
57	2545	1
58	2546	1
59	4724	1
60	-9999	0
61	4411	3
62	4078	4
63	2551	1
64	1930	1
65	-9999	0
66	2241	2
67	684	2
68	-9999	0
69	1935	1
70	-9999	0
71	2870	1

72	1932	3
73	-9999	0
74	382	2
75	685	3
76	2564	1
77	1632	1
78	72	3
79	1012	1
80	4107	3
81	3813	1
82	82	1
83	1638	1
84	2261	1
85	4128	1
86	1641	1
87	2575	1
88	-9999	0
89	4443	1
90	712	1
91	-9999	0
92	401	2
93	3514	1
94	4133	2
95	2272	1
96	4450	1
97	93	2
98	4141	1
99	1336	2
100	1033	1
101	3211	1
102	724	1
103	3213	1
104	4147	1
105	2904	1
106	396	4
107	107	1
108	730	1
109	3189	4
110	110	1
111	4144	3
112	416	2
113	1969	2
114	425	1
115	1349	2
116	4772	4
117	3840	10
118	421	5

119	2590	18
120	1364	1
121	3846	2
122	2913	3
123	1959	4
124	1669	2
125	-9999	0
126	1059	1
127	3859	1
128	128	1
129	2928	1
130	1996	1
131	3206	6
132	1687	1
133	755	1
134	445	1
135	736	4
136	2927	2
137	2577	7
138	2004	1
139	1993	4
140	1384	1
141	-9999	0
142	728	5
143	4497	1
144	748	3
145	3868	2
146	2945	1
147	2608	4
148	148	1
149	2628	2
150	4177	3
151	757	3
152	385	14
153	2014	2
154	4197	1
155	-9999	0
156	467	1
157	4822	1
158	158	1
159	4200	3
160	462	4
161	2027	1
162	-9999	0
163	3273	1
164	2335	2
165	-9999	0

166	1099	1
167	3889	2
168	2341	3
169	2962	3
170	3585	2
171	-9999	0
172	4211	3
173	484	1
174	4839	1
175	2656	2
176	2353	1
177	2354	1
178	800	1
179	169	2
180	-9999	0
181	1425	1
182	4767	11
183	1116	1
184	2050	1
185	-9999	0
186	2985	1
187	-9999	0
188	3298	1
189	-9999	0
190	2358	2
191	502	1
192	3302	1
193	504	1
194	2371	1
195	-9999	0
196	1109	3
197	2685	1
198	2367	2
199	1132	1
200	505	2
201	-9999	0
202	1748	2
203	3614	3
204	2056	3
205	4248	1
206	517	1
207	-9999	0
208	3940	1
209	520	1
210	-9999	0
211	4876	1
212	3010	2

213	-9999	0
214	2997	3
215	1148	1
216	1460	1
217	4880	3
218	-9999	0
219	-9999	0
220	-9999	0
221	1154	1
222	-9999	0
223	205	4
224	1157	1
225	4579	1
226	2704	3
227	2093	1
228	1161	1
229	4583	1
230	3962	1
231	-9999	0
232	1165	1
233	2720	2
234	2100	1
235	-9999	0
236	1785	2
237	237	1
238	3031	4
239	1481	2
240	3029	2
241	-9999	0
242	553	1
243	4597	1
244	-9999	0
245	1489	1
246	1490	1
247	-9999	0
248	539	3
249	3359	1
250	-9999	0
251	3050	1
252	2740	1
253	867	2
254	1187	1
255	2743	1
256	4610	1
257	879	1
258	1502	1
259	2121	3

260	3059	1
261	-9999	0
262	573	1
263	-9999	0
264	264	1
265	265	1
266	-9999	0
267	-9999	0
268	1201	1
269	2757	1
270	3691	1
271	4622	2
272	-9999	0
273	2134	2
274	1829	1
275	891	4
276	-9999	0
277	1832	1
278	2447	2
279	1804	7
280	4942	2
281	2759	2
282	2148	1
283	905	1
284	1839	1
285	4950	1
286	4321	5
287	3708	1
288	2457	2
289	586	3
290	-9999	0
291	2779	1
292	262	11
293	-9999	0
294	4939	3
295	287	2
296	3406	1
297	3718	1
298	1231	1
299	-9999	0
300	-9999	0
301	2478	1
302	2474	2
303	4968	1
304	615	1
305	3412	2
306	3105	1

307	2173	1
308	-9999	0
309	3419	1
310	-9999	0

Avg # of probes: 1 0.94

LINEAR PROBE WITH ALPHA = 0. 659
Iteration: 2

=====

LOCATION	KEY	PROBES
0	310	2
1	1553	4
2	2490	1
3	4046	1
4	2491	2
5	3426	1
6	-9999	0
7	1873	1
8	630	1
9	4985	1
10	4986	1
11	4052	3
12	1256	1
13	-9999	0
14	325	1
15	-9999	0
16	-9999	0
17	-9999	0
18	4683	1
19	952	1
20	3441	1
21	2197	2
22	2510	1
23	1576	3
24	1579	1
25	-9999	0
26	-9999	0
27	1582	1
28	-9999	0
29	962	1
30	-9999	0
31	1586	1
32	-9999	0
33	1899	1
34	-9999	0

35	346	1
36	2835	1
37	2836	1
38	-9999	0
39	-9999	0
40	4705	1
41	973	2
42	-9999	0
43	-9999	0
44	-9999	0
45	1289	1
46	4400	1
47	2845	2
48	1292	1
49	1915	1
50	3782	1
51	3472	1
52	1918	1
53	4718	1
54	2542	1
55	677	1
56	1300	1
57	-9999	0
58	3479	1
59	1614	1
60	1615	1
61	993	2
62	4105	1
63	4728	1
64	-9999	0
65	-9999	0
66	1310	1
67	-9999	0
68	2245	1
69	4733	2
70	-9999	0
71	-9999	0
72	1005	1
73	384	1
74	1318	1
75	2562	2
76	3804	5
77	3187	1
78	78	1
79	390	1
80	1324	1
81	-9999	0

82	-9999	0
83	83	1
84	1328	1
85	1640	1
86	-9999	0
87	709	1
88	1954	1
89	398	3
90	4444	1
91	4442	4
92	-9999	0
93	-9999	0
94	-9999	0
95	-9999	0
96	3517	1
97	719	1
98	2895	3
99	-9999	0
100	1655	1
101	-9999	0
102	-9999	0
103	414	1
104	2591	2
105	2903	2
106	1037	3
107	-9999	0
108	-9999	0
109	4152	1
110	1975	2
111	-9999	0
112	3844	1
113	1046	1
114	-9999	0
115	-9999	0
116	-9999	0
117	-9999	0
118	1984	1
119	-9999	0
120	742	1
121	3541	2
122	-9999	0
123	-9999	0
124	4789	1
125	-9999	0
126	1370	1
127	2304	1
128	4171	1

129	3550	1
130	441	1
131	1064	1
132	2929	3
133	-9999	0
134	134	1
135	3245	1
136	-9999	0
137	2625	1
138	-9999	0
139	3249	1
140	2006	1
141	-9999	0
142	3874	1
143	2942	1
144	4496	3
145	1078	1
146	2012	1
147	1701	2
148	3879	2
149	2948	1
150	2635	4
151	-9999	0
152	774	1
153	-9999	0
154	-9999	0
155	1710	1
156	2333	1
157	779	1
158	3268	1
159	3579	2
160	2646	3
161	4204	1
162	2649	2
163	1401	7
164	164	1
165	1720	1
166	-9999	0
167	-9999	0
168	1723	1
169	3901	1
170	1103	1
171	-9999	0
172	-9999	0
173	-9999	0
174	-9999	0
175	-9999	0

176	-9999	0
177	2976	1
178	1733	1
179	1423	1
180	-9999	0
181	2980	1
182	4536	1
183	4848	1
184	804	3
185	-9999	0
186	-9999	0
187	-9999	0
188	2365	1
189	-9999	0
190	-9999	0
191	-9999	0
192	-9999	0
193	2059	1
194	-9999	0
195	2061	1
196	-9999	0
197	-9999	0
198	-9999	0
199	2376	1
200	4243	1
201	1756	1
202	1757	1
203	2069	1
204	2070	1
205	1759	2
206	2072	1
207	3931	9
208	2067	8
209	-9999	0
210	4253	1
211	4565	1
212	3633	1
213	-9999	0
214	4879	1
215	1459	1
216	-9999	0
217	-9999	0
218	-9999	0
219	2707	1
220	-9999	0
221	-9999	0
222	-9999	0

223	-9999	0
224	-9999	0
225	-9999	0
226	-9999	0
227	3337	1
228	-9999	0
229	4272	1
230	2096	1
231	2408	1
232	543	1
233	3032	1
234	4898	2
235	3656	1
236	-9999	0
237	-9999	0
238	-9999	0
239	-9999	0
240	-9999	0
241	-9999	0
242	-9999	0
243	1176	1
244	1177	1
245	3355	1
246	2423	1
247	-9999	0
248	-9999	0
249	-9999	0
250	-9999	0
251	2739	1
252	4605	2
253	-9999	0
254	4297	1
255	877	1
256	3676	2
257	3989	1
258	4299	3
259	-9999	0
260	1504	1
261	-9999	0
262	3061	1
263	3684	1
264	1508	1
265	3374	2
266	2132	1
267	1822	1
268	-9999	0
269	4934	1

270	1203	1
271	2448	1
272	1205	1
273	1206	1
274	1826	4
275	4007	1
276	2142	1
277	-9999	0
278	4010	1
279	4011	1
280	901	2
281	1213	2
282	282	1
283	1834	5
284	4948	2
285	3395	1
286	2462	2
287	4323	8
288	288	1
289	911	1
290	601	1
291	-9999	0
292	4024	1
293	-9999	0
294	-9999	0
295	-9999	0
296	2162	1
297	3407	1
298	-9999	0
299	2165	1
300	4031	2
301	921	3
302	1546	1
303	-9999	0
304	1859	1
305	1238	1
306	3415	2
307	2795	1
308	-9999	0
309	931	1
310	4664	1

Avg # of probes: 1 0.473

LINEAR PROBE WITH ALPHA = 0. 804

Iteration: 2

=====

LOCATION	KEY	PROBES
	0	310
	1	1553
	2	2490
	3	4046
	4	2491
	5	3426
	6	4976
	7	1873
	8	630
	9	4985
	10	4986
	11	4052
	12	1256
	13	3431
	14	325
	15	637
	16	-9999
	17	-9999
	18	4683
	19	952
	20	3441
	21	2197
	22	2510
	23	1576
	24	1579
	25	2196
	26	2819
	27	1582
	28	2823
	29	962
	30	-9999
	31	1586
	32	-9999
	33	1899
	34	-9999
	35	346
	36	2835
	37	2836
	38	-9999
	39	-9999
	40	4705
	41	973
	42	-9999
	43	-9999
	44	-9999

45	1289	1
46	4400	1
47	2845	2
48	1292	1
49	1915	1
50	3782	1
51	3472	1
52	1918	1
53	4718	1
54	2542	1
55	677	1
56	1300	1
57	363	6
58	3479	1
59	1614	1
60	1615	1
61	993	2
62	4105	1
63	4728	1
64	1911	20
65	4722	9
66	1310	1
67	3157	21
68	2245	1
69	4733	2
70	-9999	0
71	-9999	0
72	1005	1
73	384	1
74	1318	1
75	2562	2
76	3804	5
77	3187	1
78	78	1
79	390	1
80	1324	1
81	-9999	0
82	-9999	0
83	83	1
84	1328	1
85	1640	1
86	-9999	0
87	709	1
88	1954	1
89	398	3
90	4444	1
91	4442	4

92	2890	2
93	-9999	0
94	716	1
95	-9999	0
96	3517	1
97	719	1
98	2895	3
99	407	4
100	1655	1
101	-9999	0
102	1346	1
103	414	1
104	2591	2
105	2903	2
106	1037	3
107	1970	4
108	-9999	0
109	4152	1
110	1975	2
111	3843	1
112	3844	1
113	1046	1
114	2601	2
115	-9999	0
116	-9999	0
117	-9999	0
118	1984	1
119	1362	2
120	742	1
121	3541	2
122	-9999	0
123	-9999	0
124	4789	1
125	2302	1
126	1370	1
127	2304	1
128	4171	1
129	3550	1
130	441	1
131	1064	1
132	2929	3
133	754	2
134	134	1
135	3245	1
136	-9999	0
137	2625	1
138	-9999	0

139	3249	1
140	2006	1
141	2629	1
142	3874	1
143	2942	1
144	4496	3
145	1078	1
146	2012	1
147	1701	2
148	3879	2
149	2948	1
150	2635	4
151	1699	8
152	774	1
153	3257	7
154	1077	11
155	1710	1
156	2333	1
157	779	1
158	3268	1
159	3579	2
160	2646	3
161	4204	1
162	2649	2
163	1401	7
164	164	1
165	1720	1
166	1098	2
167	1100	1
168	1723	1
169	3901	1
170	1103	1
171	4521	5
172	1716	12
173	4817	22
174	-9999	0
175	-9999	0
176	-9999	0
177	2976	1
178	1733	1
179	1423	1
180	179	2
181	2980	1
182	4536	1
183	4848	1
184	804	3
185	-9999	0

186	-9999	0
187	1742	1
188	2365	1
189	500	1
190	-9999	0
191	-9999	0
192	-9999	0
193	2059	1
194	-9999	0
195	2061	1
196	4860	2
197	-9999	0
198	-9999	0
199	2376	1
200	4243	1
201	1756	1
202	1757	1
203	2069	1
204	2070	1
205	1759	2
206	2072	1
207	3931	9
208	2067	8
209	201	9
210	4253	1
211	4565	1
212	3633	1
213	1766	3
214	4879	1
215	1459	1
216	-9999	0
217	-9999	0
218	-9999	0
219	2707	1
220	4263	1
221	-9999	0
222	-9999	0
223	-9999	0
224	-9999	0
225	-9999	0
226	-9999	0
227	3337	1
228	-9999	0
229	4272	1
230	2096	1
231	2408	1
232	543	1

233	3032	1
234	4898	2
235	3656	1
236	546	2
237	4276	5
238	-9999	0
239	-9999	0
240	-9999	0
241	-9999	0
242	-9999	0
243	1176	1
244	1177	1
245	3355	1
246	2423	1
247	2112	2
248	-9999	0
249	-9999	0
250	-9999	0
251	2739	1
252	4605	2
253	253	1
254	4297	1
255	877	1
256	3676	2
257	3989	1
258	4299	3
259	567	4
260	1504	1
261	1194	1
262	3061	1
263	3684	1
264	1508	1
265	3374	2
266	2132	1
267	1822	1
268	890	1
269	4934	1
270	1203	1
271	2448	1
272	1205	1
273	1206	1
274	1826	4
275	4007	1
276	2142	1
277	3074	3
278	4010	1
279	4011	1

280	901	2
281	1213	2
282	282	1
283	1834	5
284	4948	2
285	3395	1
286	2462	2
287	4323	8
288	288	1
289	911	1
290	601	1
291	3401	1
292	4024	1
293	-9999	0
294	-9999	0
295	-9999	0
296	2162	1
297	3407	1
298	-9999	0
299	2165	1
300	4031	2
301	921	3
302	1546	1
303	-9999	0
304	1859	1
305	1238	1
306	3415	2
307	2795	1
308	-9999	0
309	931	1
310	4664	1

Avg # of probes: 2 0.068

DOUBLE HASH WITH A LPHA 0.659

Iteration: 2

=====

LOCATION	KEY	PROBES
0	310	2
1	-9999	0
2	1553	2
3	4046	1
4	2490	3
5	2491	2
6	3415	3
7	1873	1

8	630	1
9	4985	1
10	4986	1
11	-9999	0
12	4052	2
13	-9999	0
14	325	1
15	-9999	0
16	-9999	0
17	4948	6
18	4683	1
19	952	1
20	3441	1
21	1576	1
22	2510	1
23	-9999	0
24	1579	1
25	-9999	0
26	1256	3
27	1582	1
28	2197	2
29	962	1
30	-9999	0
31	1586	1
32	-9999	0
33	1899	1
34	-9999	0
35	346	1
36	2835	1
37	2836	1
38	-9999	0
39	-9999	0
40	4705	1
41	-9999	0
42	-9999	0
43	-9999	0
44	973	2
45	1289	1
46	4400	1
47	3426	7
48	1292	1
49	1915	1
50	3782	1
51	3472	1
52	1918	1
53	4718	1
54	2542	1

55	677	1
56	1300	1
57	-9999	0
58	3479	1
59	1614	1
60	1615	1
61	-9999	0
62	4105	1
63	4728	1
64	993	2
65	-9999	0
66	1310	1
67	-9999	0
68	2245	1
69	-9999	0
70	2845	5
71	-9999	0
72	1005	1
73	384	1
74	1318	1
75	-9999	0
76	4733	3
77	2562	2
78	78	1
79	390	1
80	1324	1
81	-9999	0
82	3804	3
83	83	1
84	1328	1
85	1640	1
86	-9999	0
87	709	1
88	1954	1
89	-9999	0
90	4444	1
91	4442	2
92	-9999	0
93	3187	3
94	-9999	0
95	-9999	0
96	3517	1
97	719	1
98	-9999	0
99	-9999	0
100	1655	1
101	-9999	0

102	2895	2
103	414	1
104	2903	1
105	2591	2
106	-9999	0
107	-9999	0
108	-9999	0
109	4152	1
110	-9999	0
111	-9999	0
112	3844	1
113	1046	1
114	398	4
115	1975	2
116	-9999	0
117	-9999	0
118	1984	1
119	-9999	0
120	742	1
121	-9999	0
122	3541	2
123	-9999	0
124	4789	1
125	-9999	0
126	1370	1
127	2304	1
128	1037	4
129	3550	1
130	441	1
131	1064	1
132	4171	3
133	-9999	0
134	134	1
135	3245	1
136	-9999	0
137	2625	1
138	-9999	0
139	3249	1
140	2006	1
141	-9999	0
142	3874	1
143	2942	1
144	-9999	0
145	1078	1
146	2012	1
147	3879	1
148	1701	2

149	2948	1
150	2929	3
151	-9999	0
152	774	1
153	2635	2
154	-9999	0
155	1710	1
156	2333	1
157	779	1
158	3268	1
159	1401	2
160	-9999	0
161	4204	1
162	-9999	0
163	4496	4
164	164	1
165	1720	1
166	-9999	0
167	-9999	0
168	1723	1
169	3901	1
170	1103	1
171	2649	2
172	2646	3
173	-9999	0
174	-9999	0
175	-9999	0
176	-9999	0
177	2976	1
178	1733	1
179	1423	1
180	-9999	0
181	2980	1
182	4536	1
183	4848	1
184	-9999	0
185	-9999	0
186	-9999	0
187	804	2
188	2365	1
189	-9999	0
190	-9999	0
191	-9999	0
192	-9999	0
193	2059	1
194	-9999	0
195	2061	1

196	-9999	0
197	-9999	0
198	3579	5
199	2376	1
200	4243	1
201	1756	1
202	1757	1
203	2069	1
204	2070	1
205	3931	4
206	2072	1
207	-9999	0
208	-9999	0
209	2067	2
210	4253	1
211	4565	1
212	3633	1
213	-9999	0
214	1759	2
215	1459	1
216	-9999	0
217	-9999	0
218	-9999	0
219	2707	1
220	-9999	0
221	-9999	0
222	-9999	0
223	-9999	0
224	4879	2
225	-9999	0
226	-9999	0
227	3337	1
228	-9999	0
229	4272	1
230	2096	1
231	2408	1
232	543	1
233	3032	1
234	-9999	0
235	3656	1
236	-9999	0
237	-9999	0
238	-9999	0
239	-9999	0
240	-9999	0
241	-9999	0
242	4898	2

243	1176	1
244	1177	1
245	3355	1
246	2423	1
247	-9999	0
248	-9999	0
249	-9999	0
250	-9999	0
251	2739	1
252	-9999	0
253	-9999	0
254	4297	1
255	877	1
256	4299	1
257	3989	1
258	-9999	0
259	-9999	0
260	1504	1
261	-9999	0
262	3061	1
263	3684	1
264	1508	1
265	-9999	0
266	2132	1
267	1822	1
268	-9999	0
269	4934	1
270	1203	1
271	2448	1
272	1205	1
273	1206	1
274	3374	3
275	4007	1
276	2142	1
277	-9999	0
278	1826	2
279	4011	1
280	1213	1
281	901	2
282	282	1
283	3676	5
284	1834	2
285	3395	1
286	4010	9
287	4605	7
288	288	1
289	911	1

290	601	1
291	2462	3
292	4024	1
293	-9999	0
294	-9999	0
295	-9999	0
296	2162	1
297	3407	1
298	-9999	0
299	2165	1
300	4323	6
301	4031	2
302	1546	1
303	921	3
304	1859	1
305	1238	1
306	-9999	0
307	2795	1
308	-9999	0
309	931	1
310	4664	1

Avg # of probes: 1 0.507

DOUBLE HASH WITH A LPHA 0.804

Iteration: 2

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LOCATION	KEY	PROBES
0	310	2
1	567	8
2	1553	2
3	4046	1
4	2490	3
5	2491	2
6	3415	3
7	1873	1
8	630	1
9	4985	1
10	4986	1
11	-9999	0
12	4052	2
13	-9999	0
14	325	1
15	637	1
16	3431	4
17	4948	6

18	4683	1
19	952	1
20	3441	1
21	1576	1
22	2510	1
23	-9999	0
24	1579	1
25	-9999	0
26	1256	3
27	1582	1
28	2197	2
29	962	1
30	2819	2
31	1586	1
32	2823	3
33	1899	1
34	-9999	0
35	346	1
36	2835	1
37	2836	1
38	-9999	0
39	-9999	0
40	4705	1
41	-9999	0
42	4976	7
43	-9999	0
44	973	2
45	1289	1
46	4400	1
47	3426	7
48	1292	1
49	1915	1
50	3782	1
51	3472	1
52	1918	1
53	4718	1
54	2542	1
55	677	1
56	1300	1
57	1911	7
58	3479	1
59	1614	1
60	1615	1
61	2196	7
62	4105	1
63	4728	1
64	993	2

65	-9999	0
66	1310	1
67	-9999	0
68	2245	1
69	4722	5
70	2845	5
71	3157	4
72	1005	1
73	384	1
74	1318	1
75	-9999	0
76	4733	3
77	2562	2
78	78	1
79	390	1
80	1324	1
81	-9999	0
82	3804	3
83	83	1
84	1328	1
85	1640	1
86	-9999	0
87	709	1
88	1954	1
89	-9999	0
90	4444	1
91	4442	2
92	363	11
93	3187	3
94	716	1
95	2890	5
96	3517	1
97	719	1
98	-9999	0
99	-9999	0
100	1655	1
101	-9999	0
102	2895	2
103	414	1
104	2903	1
105	2591	2
106	1970	3
107	-9999	0
108	-9999	0
109	4152	1
110	-9999	0
111	3843	1

112	3844	1
113	1046	1
114	398	4
115	1975	2
116	1346	3
117	2601	3
118	1984	1
119	-9999	0
120	742	1
121	1362	2
122	3541	2
123	-9999	0
124	4789	1
125	2302	1
126	1370	1
127	2304	1
128	1037	4
129	3550	1
130	441	1
131	1064	1
132	4171	3
133	-9999	0
134	134	1
135	3245	1
136	407	6
137	2625	1
138	-9999	0
139	3249	1
140	2006	1
141	2629	1
142	3874	1
143	2942	1
144	1699	1
145	1078	1
146	2012	1
147	3879	1
148	1701	2
149	2948	1
150	2929	3
151	-9999	0
152	774	1
153	2635	2
154	-9999	0
155	1710	1
156	2333	1
157	779	1
158	3268	1

159	1401	2
160	1077	3
161	4204	1
162	754	7
163	4496	4
164	164	1
165	1720	1
166	-9999	0
167	1100	1
168	1723	1
169	3901	1
170	1103	1
171	2649	2
172	2646	3
173	4521	4
174	1098	2
175	1716	3
176	4817	4
177	2976	1
178	1733	1
179	1423	1
180	-9999	0
181	2980	1
182	4536	1
183	4848	1
184	-9999	0
185	-9999	0
186	-9999	0
187	804	2
188	2365	1
189	179	2
190	1742	2
191	500	3
192	-9999	0
193	2059	1
194	-9999	0
195	2061	1
196	4860	2
197	-9999	0
198	3579	5
199	2376	1
200	4243	1
201	1756	1
202	1757	1
203	2069	1
204	2070	1
205	3931	4

206	2072	1
207	201	4
208	-9999	0
209	2067	2
210	4253	1
211	4565	1
212	3633	1
213	-9999	0
214	1759	2
215	1459	1
216	-9999	0
217	-9999	0
218	1766	2
219	2707	1
220	4263	1
221	-9999	0
222	-9999	0
223	-9999	0
224	4879	2
225	-9999	0
226	-9999	0
227	3337	1
228	-9999	0
229	4272	1
230	2096	1
231	2408	1
232	543	1
233	3032	1
234	-9999	0
235	3656	1
236	-9999	0
237	-9999	0
238	-9999	0
239	-9999	0
240	4276	2
241	-9999	0
242	4898	2
243	1176	1
244	1177	1
245	3355	1
246	2423	1
247	-9999	0
248	-9999	0
249	2112	2
250	-9999	0
251	2739	1
252	-9999	0

253	253	1
254	4297	1
255	877	1
256	4299	1
257	3989	1
258	-9999	0
259	3257	15
260	1504	1
261	1194	1
262	3061	1
263	3684	1
264	1508	1
265	-9999	0
266	2132	1
267	1822	1
268	890	1
269	4934	1
270	1203	1
271	2448	1
272	1205	1
273	1206	1
274	3374	3
275	4007	1
276	2142	1
277	546	7
278	1826	2
279	4011	1
280	1213	1
281	901	2
282	282	1
283	3676	5
284	1834	2
285	3395	1
286	4010	9
287	4605	7
288	288	1
289	911	1
290	601	1
291	2462	3
292	4024	1
293	3401	2
294	-9999	0
295	3074	5
296	2162	1
297	3407	1
298	-9999	0
299	2165	1

300	4323	6
301	4031	2
302	1546	1
303	921	3
304	1859	1
305	1238	1
306	-9999	0
307	2795	1
308	-9999	0
309	931	1
310	4664	1

Avg # of probes: 1	0.884
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