

```
1 "C:\Program Files\Java\jdk1.8.0_51\bin\java" "-javaagent:C
:\Program Files (x86)\JetBrains\IntelliJ IDEA Community
Edition 2016.2.1\lib\coverage-agent.jar=C:\Users\antzy_000
\AppData\Local\Temp\coverageargs" -Didea.launcher.port=
7532 "-Didea.launcher.bin.path=C:\Program Files (x86)\
JetBrains\IntelliJ IDEA Community Edition 2016.2.1\bin" -
Dfile.encoding=UTF-8 -classpath "C:\Program Files\Java\
jdk1.8.0_51\jre\lib\charsets.jar;C:\Program Files\Java\
jdk1.8.0_51\jre\lib\deploy.jar;C:\Program Files\Java\jdk1.
8.0_51\jre\lib\ext\access-bridge-64.jar;C:\Program Files\
Java\jdk1.8.0_51\jre\lib\ext\cldrdata.jar;C:\Program Files
\Java\jdk1.8.0_51\jre\lib\ext\dnsns.jar;C:\Program Files\
Java\jdk1.8.0_51\jre\lib\ext\jaccess.jar;C:\Program Files\
Java\jdk1.8.0_51\jre\lib\ext\jfxrt.jar;C:\Program Files\
Java\jdk1.8.0_51\jre\lib\ext\localedata.jar;C:\Program
Files\Java\jdk1.8.0_51\jre\lib\ext\nashorn.jar;C:\Program
Files\Java\jdk1.8.0_51\jre\lib\ext\sunec.jar;C:\Program
Files\Java\jdk1.8.0_51\jre\lib\ext\sunjce_provider.jar;C:\
Program Files\Java\jdk1.8.0_51\jre\lib\ext\sunmscapi.jar;C
:\Program Files\Java\jdk1.8.0_51\jre\lib\ext\sunpkcs11.jar
;C:\Program Files\Java\jdk1.8.0_51\jre\lib\ext\zipfs.jar;C
:\Program Files\Java\jdk1.8.0_51\jre\lib\javaws.jar;C:\
Program Files\Java\jdk1.8.0_51\jre\lib\jce.jar;C:\Program
Files\Java\jdk1.8.0_51\jre\lib\jfr.jar;C:\Program Files\
Java\jdk1.8.0_51\jre\lib\jfxswt.jar;C:\Program Files\Java\
jdk1.8.0_51\jre\lib\jsse.jar;C:\Program Files\Java\jdk1.8.
0_51\jre\lib\management-agent.jar;C:\Program Files\Java\
jdk1.8.0_51\jre\lib\plugin.jar;C:\Program Files\Java\jdk1.
8.0_51\jre\lib\resources.jar;C:\Program Files\Java\jdk1.8.
0_51\jre\lib\rt.jar;C:\Users\antzy_000\Documents\Cal Poly
Pomona\Fall 2016\CS 420\AnthonyHaddox_420P1\out\production
\CS 420;C:\Program Files (x86)\JetBrains\IntelliJ IDEA
Community Edition 2016.2.1\lib\idea_rt.jar" com.intellij.
rt.execution.application.AppMain edu.awhaddox.Main
2 ---- IntelliJ IDEA coverage runner ----
3 sampling ...
4 include patterns:
5 exclude patterns:
6 1) Generate Random Puzzle
7 2) Enter own puzzle
8 3) Quit
9 > 1
10 1) H1
11 2) H2
12 3) Both
```

```
13 > 3
14 Unsolvable puzzle generated. Generating new puzzle...
15 [ 6 ] [ 1 ] [ 4 ]
16 [ 7 ] [ 2 ] [ 5 ]
17 [ 8 ] [ 0 ] [ 3 ]
18 G(n): 0 | H(n): 6
19
20 [ 6 ] [ 1 ] [ 4 ]
21 [ 7 ] [ 2 ] [ 5 ]
22 [ 8 ] [ 3 ] [ 0 ]
23 G(n): 1 | H(n): 6
24
25 [ 6 ] [ 1 ] [ 4 ]
26 [ 7 ] [ 2 ] [ 0 ]
27 [ 8 ] [ 3 ] [ 5 ]
28 G(n): 2 | H(n): 7
29
30 [ 6 ] [ 1 ] [ 4 ]
31 [ 7 ] [ 0 ] [ 2 ]
32 [ 8 ] [ 3 ] [ 5 ]
33 G(n): 3 | H(n): 7
34
35 [ 6 ] [ 1 ] [ 4 ]
36 [ 7 ] [ 3 ] [ 2 ]
37 [ 8 ] [ 0 ] [ 5 ]
38 G(n): 4 | H(n): 7
39
40 [ 6 ] [ 1 ] [ 4 ]
41 [ 7 ] [ 3 ] [ 2 ]
42 [ 0 ] [ 8 ] [ 5 ]
43 G(n): 5 | H(n): 7
44
45 [ 6 ] [ 1 ] [ 4 ]
46 [ 0 ] [ 3 ] [ 2 ]
47 [ 7 ] [ 8 ] [ 5 ]
48 G(n): 6 | H(n): 7
49
50 [ 0 ] [ 1 ] [ 4 ]
51 [ 6 ] [ 3 ] [ 2 ]
52 [ 7 ] [ 8 ] [ 5 ]
53 G(n): 7 | H(n): 7
54
55 [ 1 ] [ 0 ] [ 4 ]
56 [ 6 ] [ 3 ] [ 2 ]
57 [ 7 ] [ 8 ] [ 5 ]
```

```
58 G(n): 8 | H(n): 8
59
60 [ 1 ] [ 4 ] [ 0 ]
61 [ 6 ] [ 3 ] [ 2 ]
62 [ 7 ] [ 8 ] [ 5 ]
63 G(n): 9 | H(n): 8
64
65 [ 1 ] [ 4 ] [ 2 ]
66 [ 6 ] [ 3 ] [ 0 ]
67 [ 7 ] [ 8 ] [ 5 ]
68 G(n): 10 | H(n): 7
69
70 [ 1 ] [ 4 ] [ 2 ]
71 [ 6 ] [ 3 ] [ 5 ]
72 [ 7 ] [ 8 ] [ 0 ]
73 G(n): 11 | H(n): 6
74
75 [ 1 ] [ 4 ] [ 2 ]
76 [ 6 ] [ 3 ] [ 5 ]
77 [ 7 ] [ 0 ] [ 8 ]
78 G(n): 12 | H(n): 5
79
80 [ 1 ] [ 4 ] [ 2 ]
81 [ 6 ] [ 3 ] [ 5 ]
82 [ 0 ] [ 7 ] [ 8 ]
83 G(n): 13 | H(n): 4
84
85 [ 1 ] [ 4 ] [ 2 ]
86 [ 0 ] [ 3 ] [ 5 ]
87 [ 6 ] [ 7 ] [ 8 ]
88 G(n): 14 | H(n): 3
89
90 [ 1 ] [ 4 ] [ 2 ]
91 [ 3 ] [ 0 ] [ 5 ]
92 [ 6 ] [ 7 ] [ 8 ]
93 G(n): 15 | H(n): 2
94
95 [ 1 ] [ 0 ] [ 2 ]
96 [ 3 ] [ 4 ] [ 5 ]
97 [ 6 ] [ 7 ] [ 8 ]
98 G(n): 16 | H(n): 1
99
100 [ 0 ] [ 1 ] [ 2 ]
101 [ 3 ] [ 4 ] [ 5 ]
102 [ 6 ] [ 7 ] [ 8 ]
```

```
103 G(n): 17 | H(n): 0
104
105 Nodes generated: 1337
106 [ 6 ] [ 1 ] [ 4 ]
107 [ 7 ] [ 2 ] [ 5 ]
108 [ 8 ] [ 0 ] [ 3 ]
109 G(n): 0 | H(n): 13
110
111 [ 6 ] [ 1 ] [ 4 ]
112 [ 7 ] [ 2 ] [ 5 ]
113 [ 8 ] [ 3 ] [ 0 ]
114 G(n): 1 | H(n): 12
115
116 [ 6 ] [ 1 ] [ 4 ]
117 [ 7 ] [ 2 ] [ 0 ]
118 [ 8 ] [ 3 ] [ 5 ]
119 G(n): 2 | H(n): 13
120
121 [ 6 ] [ 1 ] [ 4 ]
122 [ 7 ] [ 0 ] [ 2 ]
123 [ 8 ] [ 3 ] [ 5 ]
124 G(n): 3 | H(n): 12
125
126 [ 6 ] [ 1 ] [ 4 ]
127 [ 7 ] [ 3 ] [ 2 ]
128 [ 8 ] [ 0 ] [ 5 ]
129 G(n): 4 | H(n): 11
130
131 [ 6 ] [ 1 ] [ 4 ]
132 [ 7 ] [ 3 ] [ 2 ]
133 [ 0 ] [ 8 ] [ 5 ]
134 G(n): 5 | H(n): 10
135
136 [ 6 ] [ 1 ] [ 4 ]
137 [ 0 ] [ 3 ] [ 2 ]
138 [ 7 ] [ 8 ] [ 5 ]
139 G(n): 6 | H(n): 9
140
141 [ 0 ] [ 1 ] [ 4 ]
142 [ 6 ] [ 3 ] [ 2 ]
143 [ 7 ] [ 8 ] [ 5 ]
144 G(n): 7 | H(n): 8
145
146 [ 1 ] [ 0 ] [ 4 ]
147 [ 6 ] [ 3 ] [ 2 ]
```

```
148 [ 7 ] [ 8 ] [ 5 ]
149 G(n): 8 | H(n): 9
150
151 [ 1 ] [ 4 ] [ 0 ]
152 [ 6 ] [ 3 ] [ 2 ]
153 [ 7 ] [ 8 ] [ 5 ]
154 G(n): 9 | H(n): 8
155
156 [ 1 ] [ 4 ] [ 2 ]
157 [ 6 ] [ 3 ] [ 0 ]
158 [ 7 ] [ 8 ] [ 5 ]
159 G(n): 10 | H(n): 7
160
161 [ 1 ] [ 4 ] [ 2 ]
162 [ 6 ] [ 3 ] [ 5 ]
163 [ 7 ] [ 8 ] [ 0 ]
164 G(n): 11 | H(n): 6
165
166 [ 1 ] [ 4 ] [ 2 ]
167 [ 6 ] [ 3 ] [ 5 ]
168 [ 7 ] [ 0 ] [ 8 ]
169 G(n): 12 | H(n): 5
170
171 [ 1 ] [ 4 ] [ 2 ]
172 [ 6 ] [ 3 ] [ 5 ]
173 [ 0 ] [ 7 ] [ 8 ]
174 G(n): 13 | H(n): 4
175
176 [ 1 ] [ 4 ] [ 2 ]
177 [ 0 ] [ 3 ] [ 5 ]
178 [ 6 ] [ 7 ] [ 8 ]
179 G(n): 14 | H(n): 3
180
181 [ 1 ] [ 4 ] [ 2 ]
182 [ 3 ] [ 0 ] [ 5 ]
183 [ 6 ] [ 7 ] [ 8 ]
184 G(n): 15 | H(n): 2
185
186 [ 1 ] [ 0 ] [ 2 ]
187 [ 3 ] [ 4 ] [ 5 ]
188 [ 6 ] [ 7 ] [ 8 ]
189 G(n): 16 | H(n): 1
190
191 [ 0 ] [ 1 ] [ 2 ]
192 [ 3 ] [ 4 ] [ 5 ]
```

```
193 [ 6 ] [ 7 ] [ 8 ]
194 G(n): 17 | H(n): 0
195
196 Nodes generated: 123
197 1) Generate Random Puzzle
198 2) Enter own puzzle
199 3) Quit
200 > 1
201 1) H1
202 2) H2
203 3) Both
204 > 3
205 [ 3 ] [ 2 ] [ 7 ]
206 [ 0 ] [ 4 ] [ 6 ]
207 [ 5 ] [ 8 ] [ 1 ]
208 G(n): 0 | H(n): 7
209
210 [ 3 ] [ 2 ] [ 7 ]
211 [ 4 ] [ 0 ] [ 6 ]
212 [ 5 ] [ 8 ] [ 1 ]
213 G(n): 1 | H(n): 8
214
215 [ 3 ] [ 2 ] [ 7 ]
216 [ 4 ] [ 8 ] [ 6 ]
217 [ 5 ] [ 0 ] [ 1 ]
218 G(n): 2 | H(n): 8
219
220 [ 3 ] [ 2 ] [ 7 ]
221 [ 4 ] [ 8 ] [ 6 ]
222 [ 0 ] [ 5 ] [ 1 ]
223 G(n): 3 | H(n): 8
224
225 [ 3 ] [ 2 ] [ 7 ]
226 [ 0 ] [ 8 ] [ 6 ]
227 [ 4 ] [ 5 ] [ 1 ]
228 G(n): 4 | H(n): 8
229
230 [ 3 ] [ 2 ] [ 7 ]
231 [ 8 ] [ 0 ] [ 6 ]
232 [ 4 ] [ 5 ] [ 1 ]
233 G(n): 5 | H(n): 8
234
235 [ 3 ] [ 2 ] [ 7 ]
236 [ 8 ] [ 6 ] [ 0 ]
237 [ 4 ] [ 5 ] [ 1 ]
```

```
238 G(n): 6 | H(n): 8
239
240 [ 3 ] [ 2 ] [ 7 ]
241 [ 8 ] [ 6 ] [ 1 ]
242 [ 4 ] [ 5 ] [ 0 ]
243 G(n): 7 | H(n): 8
244
245 [ 3 ] [ 2 ] [ 7 ]
246 [ 8 ] [ 6 ] [ 1 ]
247 [ 4 ] [ 0 ] [ 5 ]
248 G(n): 8 | H(n): 8
249
250 [ 3 ] [ 2 ] [ 7 ]
251 [ 8 ] [ 0 ] [ 1 ]
252 [ 4 ] [ 6 ] [ 5 ]
253 G(n): 9 | H(n): 8
254
255 [ 3 ] [ 2 ] [ 7 ]
256 [ 8 ] [ 1 ] [ 0 ]
257 [ 4 ] [ 6 ] [ 5 ]
258 G(n): 10 | H(n): 8
259
260 [ 3 ] [ 2 ] [ 0 ]
261 [ 8 ] [ 1 ] [ 7 ]
262 [ 4 ] [ 6 ] [ 5 ]
263 G(n): 11 | H(n): 8
264
265 [ 3 ] [ 0 ] [ 2 ]
266 [ 8 ] [ 1 ] [ 7 ]
267 [ 4 ] [ 6 ] [ 5 ]
268 G(n): 12 | H(n): 7
269
270 [ 3 ] [ 1 ] [ 2 ]
271 [ 8 ] [ 0 ] [ 7 ]
272 [ 4 ] [ 6 ] [ 5 ]
273 G(n): 13 | H(n): 6
274
275 [ 3 ] [ 1 ] [ 2 ]
276 [ 0 ] [ 8 ] [ 7 ]
277 [ 4 ] [ 6 ] [ 5 ]
278 G(n): 14 | H(n): 6
279
280 [ 3 ] [ 1 ] [ 2 ]
281 [ 4 ] [ 8 ] [ 7 ]
282 [ 0 ] [ 6 ] [ 5 ]
```

```
283 G(n): 15 | H(n): 6
284
285 [ 3 ] [ 1 ] [ 2 ]
286 [ 4 ] [ 8 ] [ 7 ]
287 [ 6 ] [ 0 ] [ 5 ]
288 G(n): 16 | H(n): 5
289
290 [ 3 ] [ 1 ] [ 2 ]
291 [ 4 ] [ 0 ] [ 7 ]
292 [ 6 ] [ 8 ] [ 5 ]
293 G(n): 17 | H(n): 5
294
295 [ 3 ] [ 1 ] [ 2 ]
296 [ 4 ] [ 7 ] [ 0 ]
297 [ 6 ] [ 8 ] [ 5 ]
298 G(n): 18 | H(n): 5
299
300 [ 3 ] [ 1 ] [ 2 ]
301 [ 4 ] [ 7 ] [ 5 ]
302 [ 6 ] [ 8 ] [ 0 ]
303 G(n): 19 | H(n): 4
304
305 [ 3 ] [ 1 ] [ 2 ]
306 [ 4 ] [ 7 ] [ 5 ]
307 [ 6 ] [ 0 ] [ 8 ]
308 G(n): 20 | H(n): 3
309
310 [ 3 ] [ 1 ] [ 2 ]
311 [ 4 ] [ 0 ] [ 5 ]
312 [ 6 ] [ 7 ] [ 8 ]
313 G(n): 21 | H(n): 2
314
315 [ 3 ] [ 1 ] [ 2 ]
316 [ 0 ] [ 4 ] [ 5 ]
317 [ 6 ] [ 7 ] [ 8 ]
318 G(n): 22 | H(n): 1
319
320 [ 0 ] [ 1 ] [ 2 ]
321 [ 3 ] [ 4 ] [ 5 ]
322 [ 6 ] [ 7 ] [ 8 ]
323 G(n): 23 | H(n): 0
324
325 Nodes generated: 19071
326 [ 3 ] [ 2 ] [ 7 ]
327 [ 0 ] [ 4 ] [ 6 ]
```



```
328 [ 5 ] [ 8 ] [ 1 ]
329 G(n): 0 | H(n): 15
330
331 [ 3 ] [ 2 ] [ 7 ]
332 [ 4 ] [ 0 ] [ 6 ]
333 [ 5 ] [ 8 ] [ 1 ]
334 G(n): 1 | H(n): 16
335
336 [ 3 ] [ 2 ] [ 7 ]
337 [ 4 ] [ 8 ] [ 6 ]
338 [ 5 ] [ 0 ] [ 1 ]
339 G(n): 2 | H(n): 17
340
341 [ 3 ] [ 2 ] [ 7 ]
342 [ 4 ] [ 8 ] [ 6 ]
343 [ 0 ] [ 5 ] [ 1 ]
344 G(n): 3 | H(n): 16
345
346 [ 3 ] [ 2 ] [ 7 ]
347 [ 0 ] [ 8 ] [ 6 ]
348 [ 4 ] [ 5 ] [ 1 ]
349 G(n): 4 | H(n): 17
350
351 [ 3 ] [ 2 ] [ 7 ]
352 [ 8 ] [ 0 ] [ 6 ]
353 [ 4 ] [ 5 ] [ 1 ]
354 G(n): 5 | H(n): 18
355
356 [ 3 ] [ 2 ] [ 7 ]
357 [ 8 ] [ 6 ] [ 0 ]
358 [ 4 ] [ 5 ] [ 1 ]
359 G(n): 6 | H(n): 17
360
361 [ 3 ] [ 2 ] [ 7 ]
362 [ 8 ] [ 6 ] [ 1 ]
363 [ 4 ] [ 5 ] [ 0 ]
364 G(n): 7 | H(n): 16
365
366 [ 3 ] [ 2 ] [ 7 ]
367 [ 8 ] [ 6 ] [ 1 ]
368 [ 4 ] [ 0 ] [ 5 ]
369 G(n): 8 | H(n): 15
370
371 [ 3 ] [ 2 ] [ 7 ]
372 [ 8 ] [ 0 ] [ 1 ]
```

```
373 [ 4 ] [ 6 ] [ 5 ]
374 G(n): 9 | H(n): 14
375
376 [ 3 ] [ 2 ] [ 7 ]
377 [ 0 ] [ 8 ] [ 1 ]
378 [ 4 ] [ 6 ] [ 5 ]
379 G(n): 10 | H(n): 13
380
381 [ 3 ] [ 2 ] [ 7 ]
382 [ 4 ] [ 8 ] [ 1 ]
383 [ 0 ] [ 6 ] [ 5 ]
384 G(n): 11 | H(n): 12
385
386 [ 3 ] [ 2 ] [ 7 ]
387 [ 4 ] [ 8 ] [ 1 ]
388 [ 6 ] [ 0 ] [ 5 ]
389 G(n): 12 | H(n): 11
390
391 [ 3 ] [ 2 ] [ 7 ]
392 [ 4 ] [ 0 ] [ 1 ]
393 [ 6 ] [ 8 ] [ 5 ]
394 G(n): 13 | H(n): 10
395
396 [ 3 ] [ 2 ] [ 7 ]
397 [ 4 ] [ 1 ] [ 0 ]
398 [ 6 ] [ 8 ] [ 5 ]
399 G(n): 14 | H(n): 9
400
401 [ 3 ] [ 2 ] [ 0 ]
402 [ 4 ] [ 1 ] [ 7 ]
403 [ 6 ] [ 8 ] [ 5 ]
404 G(n): 15 | H(n): 8
405
406 [ 3 ] [ 0 ] [ 2 ]
407 [ 4 ] [ 1 ] [ 7 ]
408 [ 6 ] [ 8 ] [ 5 ]
409 G(n): 16 | H(n): 7
410
411 [ 3 ] [ 1 ] [ 2 ]
412 [ 4 ] [ 0 ] [ 7 ]
413 [ 6 ] [ 8 ] [ 5 ]
414 G(n): 17 | H(n): 6
415
416 [ 3 ] [ 1 ] [ 2 ]
417 [ 4 ] [ 7 ] [ 0 ]
```

```
418 [ 6 ] [ 8 ] [ 5 ]
419 G(n): 18 | H(n): 5
420
421 [ 3 ] [ 1 ] [ 2 ]
422 [ 4 ] [ 7 ] [ 5 ]
423 [ 6 ] [ 8 ] [ 0 ]
424 G(n): 19 | H(n): 4
425
426 [ 3 ] [ 1 ] [ 2 ]
427 [ 4 ] [ 7 ] [ 5 ]
428 [ 6 ] [ 0 ] [ 8 ]
429 G(n): 20 | H(n): 3
430
431 [ 3 ] [ 1 ] [ 2 ]
432 [ 4 ] [ 0 ] [ 5 ]
433 [ 6 ] [ 7 ] [ 8 ]
434 G(n): 21 | H(n): 2
435
436 [ 3 ] [ 1 ] [ 2 ]
437 [ 0 ] [ 4 ] [ 5 ]
438 [ 6 ] [ 7 ] [ 8 ]
439 G(n): 22 | H(n): 1
440
441 [ 0 ] [ 1 ] [ 2 ]
442 [ 3 ] [ 4 ] [ 5 ]
443 [ 6 ] [ 7 ] [ 8 ]
444 G(n): 23 | H(n): 0
445
446 Nodes generated: 1481
447 1) Generate Random Puzzle
448 2) Enter own puzzle
449 3) Quit
450 > 1
451 1) H1
452 2) H2
453 3) Both
454 > 3
455 [ 8 ] [ 3 ] [ 2 ]
456 [ 6 ] [ 1 ] [ 5 ]
457 [ 4 ] [ 7 ] [ 0 ]
458 G(n): 0 | H(n): 5
459
460 [ 8 ] [ 3 ] [ 2 ]
461 [ 6 ] [ 1 ] [ 5 ]
462 [ 4 ] [ 0 ] [ 7 ]
```

```
463 G(n): 1 | H(n): 6
464
465 [ 8 ] [ 3 ] [ 2 ]
466 [ 6 ] [ 1 ] [ 5 ]
467 [ 0 ] [ 4 ] [ 7 ]
468 G(n): 2 | H(n): 6
469
470 [ 8 ] [ 3 ] [ 2 ]
471 [ 0 ] [ 1 ] [ 5 ]
472 [ 6 ] [ 4 ] [ 7 ]
473 G(n): 3 | H(n): 5
474
475 [ 0 ] [ 3 ] [ 2 ]
476 [ 8 ] [ 1 ] [ 5 ]
477 [ 6 ] [ 4 ] [ 7 ]
478 G(n): 4 | H(n): 5
479
480 [ 3 ] [ 0 ] [ 2 ]
481 [ 8 ] [ 1 ] [ 5 ]
482 [ 6 ] [ 4 ] [ 7 ]
483 G(n): 5 | H(n): 5
484
485 [ 3 ] [ 1 ] [ 2 ]
486 [ 8 ] [ 0 ] [ 5 ]
487 [ 6 ] [ 4 ] [ 7 ]
488 G(n): 6 | H(n): 4
489
490 [ 3 ] [ 1 ] [ 2 ]
491 [ 0 ] [ 8 ] [ 5 ]
492 [ 6 ] [ 4 ] [ 7 ]
493 G(n): 7 | H(n): 4
494
495 [ 0 ] [ 1 ] [ 2 ]
496 [ 3 ] [ 8 ] [ 5 ]
497 [ 6 ] [ 4 ] [ 7 ]
498 G(n): 8 | H(n): 3
499
500 [ 1 ] [ 0 ] [ 2 ]
501 [ 3 ] [ 8 ] [ 5 ]
502 [ 6 ] [ 4 ] [ 7 ]
503 G(n): 9 | H(n): 4
504
505 [ 1 ] [ 2 ] [ 0 ]
506 [ 3 ] [ 8 ] [ 5 ]
507 [ 6 ] [ 4 ] [ 7 ]
```

```
508 G(n): 10 | H(n): 5
509
510 [ 1 ] [ 2 ] [ 5 ]
511 [ 3 ] [ 8 ] [ 0 ]
512 [ 6 ] [ 4 ] [ 7 ]
513 G(n): 11 | H(n): 6
514
515 [ 1 ] [ 2 ] [ 5 ]
516 [ 3 ] [ 0 ] [ 8 ]
517 [ 6 ] [ 4 ] [ 7 ]
518 G(n): 12 | H(n): 6
519
520 [ 1 ] [ 2 ] [ 5 ]
521 [ 3 ] [ 4 ] [ 8 ]
522 [ 6 ] [ 0 ] [ 7 ]
523 G(n): 13 | H(n): 5
524
525 [ 1 ] [ 2 ] [ 5 ]
526 [ 3 ] [ 4 ] [ 8 ]
527 [ 6 ] [ 7 ] [ 0 ]
528 G(n): 14 | H(n): 4
529
530 [ 1 ] [ 2 ] [ 5 ]
531 [ 3 ] [ 4 ] [ 0 ]
532 [ 6 ] [ 7 ] [ 8 ]
533 G(n): 15 | H(n): 3
534
535 [ 1 ] [ 2 ] [ 0 ]
536 [ 3 ] [ 4 ] [ 5 ]
537 [ 6 ] [ 7 ] [ 8 ]
538 G(n): 16 | H(n): 2
539
540 [ 1 ] [ 0 ] [ 2 ]
541 [ 3 ] [ 4 ] [ 5 ]
542 [ 6 ] [ 7 ] [ 8 ]
543 G(n): 17 | H(n): 1
544
545 [ 0 ] [ 1 ] [ 2 ]
546 [ 3 ] [ 4 ] [ 5 ]
547 [ 6 ] [ 7 ] [ 8 ]
548 G(n): 18 | H(n): 0
549
550 Nodes generated: 2136
551 [ 8 ] [ 3 ] [ 2 ]
552 [ 6 ] [ 1 ] [ 5 ]
```

```
553 [ 4 ] [ 7 ] [ 0 ]
554 G(n): 0 | H(n): 10
555
556 [ 8 ] [ 3 ] [ 2 ]
557 [ 6 ] [ 1 ] [ 5 ]
558 [ 4 ] [ 0 ] [ 7 ]
559 G(n): 1 | H(n): 11
560
561 [ 8 ] [ 3 ] [ 2 ]
562 [ 6 ] [ 1 ] [ 5 ]
563 [ 0 ] [ 4 ] [ 7 ]
564 G(n): 2 | H(n): 10
565
566 [ 8 ] [ 3 ] [ 2 ]
567 [ 0 ] [ 1 ] [ 5 ]
568 [ 6 ] [ 4 ] [ 7 ]
569 G(n): 3 | H(n): 9
570
571 [ 0 ] [ 3 ] [ 2 ]
572 [ 8 ] [ 1 ] [ 5 ]
573 [ 6 ] [ 4 ] [ 7 ]
574 G(n): 4 | H(n): 8
575
576 [ 3 ] [ 0 ] [ 2 ]
577 [ 8 ] [ 1 ] [ 5 ]
578 [ 6 ] [ 4 ] [ 7 ]
579 G(n): 5 | H(n): 7
580
581 [ 3 ] [ 1 ] [ 2 ]
582 [ 8 ] [ 0 ] [ 5 ]
583 [ 6 ] [ 4 ] [ 7 ]
584 G(n): 6 | H(n): 6
585
586 [ 3 ] [ 1 ] [ 2 ]
587 [ 0 ] [ 8 ] [ 5 ]
588 [ 6 ] [ 4 ] [ 7 ]
589 G(n): 7 | H(n): 5
590
591 [ 0 ] [ 1 ] [ 2 ]
592 [ 3 ] [ 8 ] [ 5 ]
593 [ 6 ] [ 4 ] [ 7 ]
594 G(n): 8 | H(n): 4
595
596 [ 1 ] [ 0 ] [ 2 ]
597 [ 3 ] [ 8 ] [ 5 ]
```

```
598 [ 6 ] [ 4 ] [ 7 ]
599 G(n): 9 | H(n): 5
600
601 [ 1 ] [ 2 ] [ 0 ]
602 [ 3 ] [ 8 ] [ 5 ]
603 [ 6 ] [ 4 ] [ 7 ]
604 G(n): 10 | H(n): 6
605
606 [ 1 ] [ 2 ] [ 5 ]
607 [ 3 ] [ 8 ] [ 0 ]
608 [ 6 ] [ 4 ] [ 7 ]
609 G(n): 11 | H(n): 7
610
611 [ 1 ] [ 2 ] [ 5 ]
612 [ 3 ] [ 0 ] [ 8 ]
613 [ 6 ] [ 4 ] [ 7 ]
614 G(n): 12 | H(n): 6
615
616 [ 1 ] [ 2 ] [ 5 ]
617 [ 3 ] [ 4 ] [ 8 ]
618 [ 6 ] [ 0 ] [ 7 ]
619 G(n): 13 | H(n): 5
620
621 [ 1 ] [ 2 ] [ 5 ]
622 [ 3 ] [ 4 ] [ 8 ]
623 [ 6 ] [ 7 ] [ 0 ]
624 G(n): 14 | H(n): 4
625
626 [ 1 ] [ 2 ] [ 5 ]
627 [ 3 ] [ 4 ] [ 0 ]
628 [ 6 ] [ 7 ] [ 8 ]
629 G(n): 15 | H(n): 3
630
631 [ 1 ] [ 2 ] [ 0 ]
632 [ 3 ] [ 4 ] [ 5 ]
633 [ 6 ] [ 7 ] [ 8 ]
634 G(n): 16 | H(n): 2
635
636 [ 1 ] [ 0 ] [ 2 ]
637 [ 3 ] [ 4 ] [ 5 ]
638 [ 6 ] [ 7 ] [ 8 ]
639 G(n): 17 | H(n): 1
640
641 [ 0 ] [ 1 ] [ 2 ]
642 [ 3 ] [ 4 ] [ 5 ]
```

```
643 [ 6 ] [ 7 ] [ 8 ]
644 G(n): 18 | H(n): 0
645
646 Nodes generated: 263
647 1) Generate Random Puzzle
648 2) Enter own puzzle
649 3) Quit
650 > 3
651
652 Process finished with exit code 0
653
```