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1 /Library/Frameworks/Python.framework/Versions/2.7/bin/
python2.7 /Users/jianili/Documents/github/Advanced_AI/
Homework2_HexGame/main.py
2 player1 move = [4, 4]
3 time used for this move:0.013662
4 ■■■■■■
5 □ . . . . □
6 □ . . . . □
7   □ . . . . □
8     □ . . . . □
9       □ . . . . □
10         □ . . . . □
11           □ . . . . □
12             □ . . . . □
13               ■■■■■■
14
15 -1's turn to place a ○ piece
16 player2 move = (2, 5)
17 time used for this move:0.048394
18 ■■■■■■
19 □ . . . . □
20 □ . . . . □
21   □ . . . . ○ . . □
22     □ . . . . □
23       □ . . . . ● . . □
24         □ . . . . □
25           □ . . . . □
26             □ . . . . □
27               ■■■■■■
28
29 1's turn to place a ● piece
30 the number of simulations performed: 2986
31 the max size of the search tree for all moves 2986
32 Best Child Value: 20
33 Best Child Visits: 112
34 player1 move = (1, 1)
35 time used for this move:60.032241
36 ■■■■■■
37 □ . . . . □
38   □ . ● . . . . □
39     □ . . . . ○ . . □
40       □ . . . . □
41         □ . . . . ● . . □
42           □ . . . . □
43             □ . . . . □
44               □ . . . . □
45                 ■■■■■■
46
47 -1's turn to place a ○ piece
48 player2 move = (2, 4)

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49 time used for this move:0.156723

50 ■■■■■■

51 □ □

52 □ . ● □

53 □ ○ ○ . . □

54 □ □

55 □ ● . . . □

56 □ □

57 □ □

58 □ □

59 ▣■■■■■

60

61 1's turn to place a ● piece

62 the number of simulations performed: 2929

63 the max size of the search tree for all moves 2929

64 Best Child Value: 6

65 Best Child Visits: 118

66 player1 move = (4, 2)

67 time used for this move:60.039929

68 ■■■■■■

69 □ □

70 □ . ● □

71 □ ○ ○ . . □

72 □ □

73 □ . . ● . ● . . . □

74 □ □

75 □ □

76 □ □

77 ▣■■■■■

78

79 -1's turn to place a ○ piece

80 player2 move = (2, 3)

81 time used for this move:0.195173

82 ■■■■■■

83 □ □

84 □ . ● □

85 □ ○ ○ ○ . . □

86 □ □

87 □ . . ● . ● . . . □

88 □ □

89 □ □

90 □ □

91 ▣■■■■■

92

93 1's turn to place a ● piece

94 2017-03-06 21:00:10.208 Python[21210:2097975] IMKClient

Stall detected, *please Report* your user scenario
attaching a spindump (or sysdiagnose) that captures the
problem - (imkxpc_attributesForCharacterIndex:reply:) block
performed very slowly (59.98 secs).

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95 2017-03-06 21:00:10.209 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_windowLevelWithReply:) block performed
    very slowly (57.98 secs).
96 the number of simulations performed: 2963
97 the max size of the search tree for all moves 2963
98 Best Child Value: 10
99 Best Child Visits: 204
100 player1 move = (2, 2)
101 time used for this move:60.028452
102 ■■■■■■■■■■
103 □ . . . . . □
104 □ . ● . . . . □
105 □ . . ● ○ ○ ○ . □
106 □ . . . . . □
107 □ . . ● . ● . . □
108 □ . . . . . □
109 □ . . . . . □
110 □ . . . . . □
111 ■■■■■■■■■■
112
113 -1's turn to place a ○ piece
114 player2 move = (3, 2)
115 time used for this move:0.729203
116 ■■■■■■■■■■
117 □ . . . . . □
118 □ . ● . . . . □
119 □ . . ● ○ ○ ○ . □
120 □ . . ○ . . . . □
121 □ . . ● . ● . . □
122 □ . . . . . □
123 □ . . . . . □
124 □ . . . . . □
125 ■■■■■■■■■■
126
127 1's turn to place a ● piece
128 the number of simulations performed: 2995
129 the max size of the search tree for all moves 2995
130 Best Child Value: -10
131 Best Child Visits: 178
132 player1 move = (1, 7)
133 2017-03-06 21:02:10.023 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_attributesForCharacterIndex:reply:)
    block performed very slowly (59.85 secs).
134 2017-03-06 21:02:10.024 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the

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134 problem - (imkxpc_windowLevelWithReply:) block performed
    very slowly (57.85 secs).
135 time used for this move:60.035557
136 ■■■■■■■■
137 □ . . . . . □
138 □ . ● . . . . ● □
139 □ . . ● ○ ○ ○ . . □
140 □ . . ○ . . . . . □
141 □ . . ● . ● . . . □
142 □ . . . . . □
143 □ . . . . . □
144 □ . . . . . □
145 ■■■■■■■■
146
147 -1's turn to place a ○ piece
148 player2 move = (3, 1)
149 time used for this move:0.154815
150 ■■■■■■■■
151 □ . . . . . □
152 □ . ● . . . . ● □
153 □ . . ● ○ ○ ○ . . □
154 □ . ○ ○ . . . . . □
155 □ . . ● . ● . . . □
156 □ . . . . . □
157 □ . . . . . □
158 □ . . . . . □
159 ■■■■■■■■
160
161 1's turn to place a ● piece
162 the number of simulations performed: 2947
163 2017-03-06 21:03:20.157 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_attributesForCharacterIndex:reply:)
    block performed very slowly (59.95 secs).
164 the max size of the search tree for all moves 2947
165 Best Child Value: -26
166 Best Child Visits: 168
167 player1 move = (2, 6)
168 2017-03-06 21:03:20.158 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_windowLevelWithReply:) block performed
    very slowly (57.94 secs).
169 time used for this move:60.037539
170 ■■■■■■■■
171 □ . . . . . □
172 □ . ● . . . . ● □
173 □ . . ● ○ ○ ○ ● . □
174 □ . ○ ○ . . . . . □

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175  □ . . ● . . . . □
176  □ . . . . . . . □
177  □ . . . . . . . □
178  □ . . . . . . . □
179  ▣ ■ ■ ■ ■ ■ ■ ■ ■
180
181 -1's turn to place a ○ piece
182 player2 move = (1, 6)
183 time used for this move:0.387491
184  ■ ■ ■ ■ ■ ■ ■ ▣
185  □ . . . . . . . □
186  □ . ● . . . . ○ ● □
187  □ . . ● ○ ○ ○ ● . □
188  □ . ○ ○ . . . . □
189  □ . . ● . . . . □
190  □ . . . . . . . □
191  □ . . . . . . . □
192  □ . . . . . . . □
193  ▣ ■ ■ ■ ■ ■ ■ ■ ■
194
195 1's turn to place a ● piece
196 the number of simulations performed: 2934
197 the max size of the search tree for all moves 2928
198 Best Child Value: 183
199 Best Child Visits: 1097
200 player1 move = (0, 7)
201 2017-03-06 21:04:49.528 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_attributesForCharacterIndex:reply:)
    block performed very slowly (59.98 secs).
202 2017-03-06 21:04:49.528 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_windowLevelWithReply:) block performed
    very slowly (57.97 secs).
203 time used for this move:60.04728
204  ■ ■ ■ ■ ■ ■ ■ ▣
205  □ . . . . . . . ● □
206  □ . ● . . . . ○ ● □
207  □ . . ● ○ ○ ○ ● . □
208  □ . ○ ○ . . . . □
209  □ . . ● . . . . □
210  □ . . . . . . . □
211  □ . . . . . . . □
212  □ . . . . . . . □
213  ▣ ■ ■ ■ ■ ■ ■ ■ ■
214
215 -1's turn to place a ○ piece
216 player2 move = (3, 5)

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217 time used for this move:0.229963
218 ■■■■■■
219 □ . . . . . ● □
220 □ . ● . . . . ○ ● □
221 □ . . ● ○ ○ ○ ● . □
222 □ . ○ ○ . . ○ . . □
223 □ . . ● . ● . . . □
224 □ . . . . . . . □
225 □ . . . . . . . □
226 □ . . . . . . . □
227   ■■■■■■
228
229 1's turn to place a ● piece
230 2017-03-06 21:06:06.452 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_attributesForCharacterIndex:reply:)
    block performed very slowly (59.95 secs).
231 the number of simulations performed: 3072
232 2017-03-06 21:06:06.452 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_windowLevelWithReply:) block performed
    very slowly (57.95 secs).
233 the max size of the search tree for all moves 3072
234 Best Child Value: 93
235 Best Child Visits: 517
236 player1 move = (3, 6)
237 time used for this move:60.029452
238 ■■■■■■
239 □ . . . . . ● □
240 □ . ● . . . . ○ ● □
241 □ . . ● ○ ○ ○ ● . □
242 □ . ○ ○ . . ○ ● . □
243 □ . . ● . ● . . . □
244 □ . . . . . . . □
245 □ . . . . . . . □
246 □ . . . . . . . □
247   ■■■■■■
248
249 -1's turn to place a ○ piece
250 player2 move = (4, 5)
251 time used for this move:0.207057
252 ■■■■■■
253 □ . . . . . ● □
254 □ . ● . . . . ○ ● □
255 □ . . ● ○ ○ ○ ● . □
256 □ . ○ ○ . . ○ ● . □
257 □ . . ● . ● ○ . . □
258 □ . . . . . . . □

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259      □ . . . . . □
260      □ . . . . . □
261      ■ ■ ■ ■ ■ ■ ■ ■
262
263 1's turn to place a ● piece
264 2017-03-06 21:07:21.805 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_attributesForCharacterIndex:reply:)
    block performed very slowly (60.20 secs).
265 the number of simulations performed: 3015
266 2017-03-06 21:07:21.805 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_windowLevelWithReply:) block performed
    very slowly (58.20 secs).
267 the max size of the search tree for all moves 3015
268 Best Child Value: 179
269 Best Child Visits: 683
270 player1 move = (4, 6)
271 time used for this move:60.030388
272 ■ ■ ■ ■ ■ ■ ■ ■
273 □ . . . . . ● □
274 □ . ● . . . . ○ ● □
275 □ . . ● ○ ○ ○ ● . □
276 □ . ○ ○ . . ○ ● . □
277 □ . . ● . ● ○ ● . □
278 □ . . . . . □
279 □ . . . . . □
280 □ . . . . . □
281 ■ ■ ■ ■ ■ ■ ■ ■
282
283 -1's turn to place a ○ piece
284 player2 move = (6, 5)
285 time used for this move:0.186054
286 ■ ■ ■ ■ ■ ■ ■ ■
287 □ . . . . . ● □
288 □ . ● . . . . ○ ● □
289 □ . . ● ○ ○ ○ ● . □
290 □ . ○ ○ . . ○ ● . □
291 □ . . ● . ● ○ ● . □
292 □ . . . . . □
293 □ . . . . . ○ . . □
294 □ . . . . . □
295 ■ ■ ■ ■ ■ ■ ■ ■
296
297 1's turn to place a ● piece
298 2017-03-06 21:08:34.227 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the

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298 problem - (imkxpc_attributesForCharacterIndex:reply:)
    block performed very slowly (60.07 secs).
299 the number of simulations performed: 3231
300 2017-03-06 21:08:34.228 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_windowLevelWithReply:) block performed
    very slowly (58.06 secs).
301 the max size of the search tree for all moves 3231
302 Best Child Value: 280
303 Best Child Visits: 618
304 player1 move = (5, 5)
305 time used for this move:60.031101
306 ■■■■■■■■■■
307 □ . . . . . ● □
308 □ . ● . . . . ○ ● □
309 □ . . ● ○ ○ ○ ● . □
310 □ . ○ ○ . . ○ ● . □
311 □ . . ● . ● ○ ● . □
312 □ . . . . . ● . . □
313 □ . . . . . ○ . . □
314 □ . . . . . . . □
315 ■■■■■■■■■■
316
317 -1's turn to place a ○ piece
318 player2 move = (6, 4)
319 time used for this move:0.128529
320 ■■■■■■■■■■
321 □ . . . . . ● □
322 □ . ● . . . . ○ ● □
323 □ . . ● ○ ○ ○ ● . □
324 □ . ○ ○ . . ○ ● . □
325 □ . . ● . ● ○ ● . □
326 □ . . . . . ● . . □
327 □ . . . . . ○ ○ . . □
328 □ . . . . . . . □
329 ■■■■■■■■■■
330
331 1's turn to place a ● piece
332 2017-03-06 21:09:42.816 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_attributesForCharacterIndex:reply:)
    block performed very slowly (60.14 secs).
333 the number of simulations performed: 3173
334 the max size of the search tree for all moves 3160
335 2017-03-06 21:09:42.816 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_windowLevelWithReply:) block performed

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335 very slowly (58.14 secs).
336 Best Child Value: 535
337 Best Child Visits: 919
338 player1 move = (5, 4)
339 time used for this move:60.026305
340 ■■■■■■■■
341 □ . . . . . ● □
342 □ . ● . . . . ○ ● □
343 □ . . ● ○ ○ ○ ● . □
344 □ . ○ ○ . . ○ ● . □
345 □ . . ● . ● ○ ● . □
346 □ . . . . ● ● . . □
347 □ . . . . ○ ○ . . □
348 □ . . . . . . . □
349 ■■■■■■■■
350
351 -1's turn to place a ○ piece
352 player2 move = (6, 3)
353 time used for this move:0.100961
354 ■■■■■■■■
355 □ . . . . . ● □
356 □ . ● . . . . ○ ● □
357 □ . . ● ○ ○ ○ ● . □
358 □ . ○ ○ . . ○ ● . □
359 □ . . ● . ● ○ ● . □
360 □ . . . . ● ● . . □
361 □ . . . ○ ○ ○ . . □
362 □ . . . . . . . □
363 ■■■■■■■■
364
365 1's turn to place a ● piece
366 2017-03-06 21:10:49.562 Python[21210:2097975] IMKClient
Stall detected, *please Report* your user scenario
attaching a spindump (or sysdiagnose) that captures the
problem - (imkxpc_attributesForCharacterIndex:reply:)
block performed very slowly (60.66 secs).
367 the number of simulations performed: 3030
368 2017-03-06 21:10:49.562 Python[21210:2097975] IMKClient
Stall detected, *please Report* your user scenario
attaching a spindump (or sysdiagnose) that captures the
problem - (imkxpc_windowLevelWithReply:) block performed
very slowly (58.65 secs).
369 the max size of the search tree for all moves 3030
370 Best Child Value: 82
371 Best Child Visits: 178
372 player1 move = (5, 7)
373 time used for this move:60.041894
374 ■■■■■■■■
375 □ . . . . . ● □
376 □ . ● . . . . ○ ● □

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377  □ . . ● ○ ○ ○ ● . □
378  □ . ○ ○ . . ○ ● . □
379  □ . . ● . ● ○ ● . □
380  □ . . . . ● ● . ● □
381  □ . . . ○ ○ ○ . . □
382  □ . . . . . . . □
383  ▣ ■ ■ ■ ■ ■ ■ ■ ■
384
385  -1's turn to place a ○ piece
386  player2 move = (5, 6)
387  time used for this move:0.141189
388  ■ ■ ■ ■ ■ ■ ■ ■ ▣
389  □ . . . . . . . ● □
390  □ . ● . . . . ○ ● □
391  □ . . ● ○ ○ ○ ● . □
392  □ . ○ ○ . . ○ ● . □
393  □ . . ● . ● ○ ● . □
394  □ . . . . ● ● ○ ● □
395  □ . . . ○ ○ ○ . . □
396  □ . . . . . . . □
397  ▣ ■ ■ ■ ■ ■ ■ ■ ■
398
399  1's turn to place a ● piece
400  the number of simulations performed: 3352
401  the max size of the search tree for all moves 3352
402  Best Child Value: 264
403  Best Child Visits: 476
404  player1 move = (4, 7)
405  2017-03-06 21:11:58.484 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_attributesForCharacterIndex:reply:)
    block performed very slowly (59.68 secs).
406  2017-03-06 21:11:58.484 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_windowLevelWithReply:) block performed
    very slowly (57.68 secs).
407  time used for this move:60.039551
408  ■ ■ ■ ■ ■ ■ ■ ■ ▣
409  □ . . . . . . . ● □
410  □ . ● . . . . ○ ● □
411  □ . . ● ○ ○ ○ ● . □
412  □ . ○ ○ . . ○ ● . □
413  □ . . ● . ● ○ ● ● □
414  □ . . . . ● ● ○ ● □
415  □ . . . ○ ○ ○ . . □
416  □ . . . . . . . □
417  ▣ ■ ■ ■ ■ ■ ■ ■ ■
418

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419 -1's turn to place a ○ piece
420 player2 move = (6, 7)
421 time used for this move:0.109264
422 ■■■■■■■■
423 □ . . . . . ● □
424 □ . ● . . . . ○ ● □
425 □ . . ● ○ ○ ○ ● . □
426 □ . ○ ○ . . ○ ● . □
427 □ . . ● . ● ○ ● ● □
428 □ . . . . ● ● ○ ● □
429 □ . . . ○ ○ ○ . ○ □
430 □ . . . . . . . □
431 ■■■■■■■■
432
433 1's turn to place a ● piece
434 the number of simulations performed: 3273
435 the max size of the search tree for all moves 3212
436 Best Child Value: 766
437 Best Child Visits: 1050
438 player1 move = (6, 6)
439 2017-03-06 21:13:05.298 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_attributesForCharacterIndex:reply:)
    block performed very slowly (59.92 secs).
440 2017-03-06 21:13:05.298 Python[21210:2097975] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_windowLevelWithReply:) block performed
    very slowly (57.92 secs).
441 time used for this move:60.035652
442 ■■■■■■■■
443 □ . . . . . ● □
444 □ . ● . . . . ○ ● □
445 □ . . ● ○ ○ ○ ● . □
446 □ . ○ ○ . . ○ ● . □
447 □ . . ● . ● ○ ● ● □
448 □ . . . . ● ● ○ ● □
449 □ . . . ○ ○ ○ ● ○ □
450 □ . . . . . . . □
451 ■■■■■■■■
452
453 -1's turn to place a ○ piece
454 player2 move = (7, 6)
455 time used for this move:0.064447
456 ■■■■■■■■
457 □ . . . . . ● □
458 □ . ● . . . . ○ ● □
459 □ . . ● ○ ○ ○ ● . □
460 □ . ○ ○ . . ○ ● . □

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461  □ . . ● . ● ○ ● ● □
462  □ . . . . ● ● ○ ● □
463  □ . . . ○ ○ ○ ● ○ □
464  □ . . . . . ○ . □
465  ▣ ■ ■ ■ ■ ■ ■ ■ ■
466
467  1's turn to place a ● piece
468  player1 move = (7, 5)
469  time used for this move:0.023494
470  ■ ■ ■ ■ ■ ■ ■ ▣
471  □ . . . . . ● □
472  □ . ● . . . ○ ● □
473  □ . . ● ○ ○ ○ ● . □
474  □ . ○ ○ . . ○ ● . □
475  □ . . ● . ● ○ ● ● □
476  □ . . . . ● ● ○ ● □
477  □ . . . ○ ○ ○ ● ○ □
478  □ . . . . ● ○ . □
479  ▣ ■ ■ ■ ■ ■ ■ ■ ■
480
481  1's turn to place a ● piece
482  1 wins
483

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