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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 = [3, 4]
3 time used for this move:0.011751
4 ■■■■■■■■
5 □ . . . . . □
6 □ . . . . . □
7   □ . . . . . □
8     □ . . . . . □
9       □ . . . . . □
10        □ . . . . . □
11         □ . . . . . □
12          □ . . . . . □
13           ■■■■■■■■
14
15 -1's turn to place a ○ piece
16 the number of simulations performed: 2719
17 the max size of the search tree for all moves 2719
18 Best Child Value: 31
19 Best Child Visits: 153
20 player2 move = (2, 7)
21 time used for this move:60.023107
22 ■■■■■■■■
23 □ . . . . . □
24 □ . . . . . □
25   □ . . . . . ○ □
26     □ . . . . . □
27       □ . . . . . □
28         □ . . . . . □
29           □ . . . . . □
30             □ . . . . . □
31              ■■■■■■■■
32
33 1's turn to place a ● piece
34 evaluated nodes 1561
35 tree size 57
36 player1 move = (1, 5)
37 time used for this move:60.035199
38 ■■■■■■■■
39 □ . . . . . □
40 □ . . . . . ● □
41   □ . . . . . ○ □
42     □ . . . . . ● □
43       □ . . . . . □
44         □ . . . . . □
45           □ . . . . . □
46             □ . . . . . □
47              ■■■■■■■■
48

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49 -1's turn to place a ○ piece
50 the number of simulations performed: 2774
51 the max size of the search tree for all moves 2774
52 Best Child Value: 12
53 Best Child Visits: 118
54 player2 move = (3, 6)
55 time used for this move:60.024655

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56 ■■■■■■
57 □ . . . . . □
58 □ . . . . . ● . . □
59 □ . . . . . . ○ □
60 □ . . . . . ● . ○ . □
61 □ . . . . . . . . □
62 □ . . . . . . . . □
63 □ . . . . . . . . □
64 □ . . . . . . . . □
65 ▣■■■■■

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66
67 1's turn to place a ● piece
68 evaluated nodes 3134
69 tree size 112
70 player1 move = (4, 4)
71 time used for this move:60.02213

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72 ■■■■■■
73 □ . . . . . □
74 □ . . . . . ● . . □
75 □ . . . . . . ○ □
76 □ . . . . . ● . ○ . □
77 □ . . . . . ● . . . □
78 □ . . . . . . . . □
79 □ . . . . . . . . □
80 □ . . . . . . . . □
81 ▣■■■■■

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82
83 -1's turn to place a ○ piece
84 the number of simulations performed: 2799
85 the max size of the search tree for all moves 2799
86 Best Child Value: -3
87 Best Child Visits: 127
88 player2 move = (5, 4)
89 time used for this move:60.038964

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90 ■■■■■■
91 □ . . . . . □
92 □ . . . . . ● . . □
93 □ . . . . . . ○ □
94 □ . . . . . ● . ○ . □
95 □ . . . . . ● . . . □
96 □ . . . . . ○ . . . □
97 □ . . . . . . . . □
98 □ . . . . . . . . □

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99      ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
100
101 1's turn to place a ● piece
102 2017-03-06 19:25:41.366 Python[20645:2034954] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_attributesForCharacterIndex:reply:)
    block performed very slowly (59.71 secs).
103 evaluated nodes 4647
104 tree size 191
105 2017-03-06 19:25:41.367 Python[20645:2034954] IMKClient
    Stall detected, *please Report* your user scenario
    attaching a spindump (or sysdiagnose) that captures the
    problem - (imkxpc_windowLevelWithReply:) block performed
    very slowly (57.71 secs).
106 player1 move = (5, 3)
107 time used for this move:60.021404
108 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
109 □ . . . . . □
110 □ . . . . . ● . . □
111  □ . . . . . . . ○ □
112  □ . . . . . ● . ○ . □
113  □ . . . . . ● . . . □
114  □ . . . . . ● ○ . . □
115  □ . . . . . . . . □
116  □ . . . . . . . . □
117  ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
118
119 -1's turn to place a ○ piece
120 the number of simulations performed: 2754
121 the max size of the search tree for all moves 2754
122 Best Child Value: -10
123 Best Child Visits: 122
124 player2 move = (4, 6)
125 time used for this move:60.06928
126 ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
127 □ . . . . . □
128 □ . . . . . ● . . □
129  □ . . . . . . . ○ □
130  □ . . . . . ● . ○ . □
131  □ . . . . . ● . ○ . □
132  □ . . . . . ● ○ . . □
133  □ . . . . . . . . □
134  □ . . . . . . . . □
135  ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
136
137 1's turn to place a ● piece
138 evaluated nodes 5908
139 tree size 238
140 player1 move = (6, 2)

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141 time used for this move:60.048055

142 ■■■■■■

143 □ □

144 □ ● . . . □

145 □ ○ □

146 □ ● . ○ . □

147 □ ● . ○ . □

148 □ ● ○ . . . □

149 □ . . . ● □

150 □ □

151 ■■■■■■

152

153 -1's turn to place a ○ piece

154 the number of simulations performed: 2963

155 the max size of the search tree for all moves 2963

156 Best Child Value: -42

157 Best Child Visits: 132

158 player2 move = (2, 5)

159 time used for this move:60.015816

160 ■■■■■■

161 □ □

162 □ ● . . . □

163 □ ○ . ○ □

164 □ ● . ○ . □

165 □ ● . ○ . □

166 □ ● ○ . . . □

167 □ . . . ● □

168 □ □

169 ■■■■■■

170

171 1's turn to place a ● piece

172 player1 move = (2, 4)

173 time used for this move:0.0121800000001

174 ■■■■■■

175 □ □

176 □ ● . . . □

177 □ ● ○ . ○ □

178 □ ● . ○ . □

179 □ ● . ○ . □

180 □ ● ○ . . . □

181 □ . . . ● □

182 □ □

183 ■■■■■■

184

185 -1's turn to place a ○ piece

186 the number of simulations performed: 3017

187 the max size of the search tree for all moves 3017

188 Best Child Value: -79

189 Best Child Visits: 167

190 player2 move = (7, 1)

191 time used for this move:60.019192

192 ■■■■■■

193 □ □

194 □ ● . . . □

195 □ ● ○ . ○ □

196 □ ● . ○ . □

197 □ ● . ○ . □

198 □ ● ○ . . . □

199 □ ● □

200 □ . ○ □

201 ■■■■■■

202

203 1's turn to place a ● piece

204 evaluated nodes 7365

205 tree size 321

206 player1 move = (7, 2)

207 time used for this move:60.041106

208 ■■■■■■

209 □ □

210 □ ● . . . □

211 □ ● ○ . ○ □

212 □ ● . ○ . □

213 □ ● . ○ . □

214 □ ● ○ . . . □

215 □ ● □

216 □ . ○ ● □

217 ■■■■■■

218

219 -1's turn to place a ○ piece

220 the number of simulations performed: 3056

221 the max size of the search tree for all moves 3056

222 Best Child Value: -78

223 Best Child Visits: 104

224 player2 move = (0, 5)

225 time used for this move:60.024995

226 ■■■■■■

227 □ ○ . . . □

228 □ ● . . . □

229 □ ● ○ . ○ □

230 □ ● . ○ . □

231 □ ● . ○ . □

232 □ ● ○ . . . □

233 □ ● □

234 □ . ○ ● □

235 ■■■■■■

236

237 1's turn to place a ● piece

238 player1 move = (0, 6)

239 time used for this move:0.0274559999999

240 ■■■■■■

```
241  □ . . . . . ○ ● . □
242  □ . . . . . ● . . □
243  □ . . . . . ● ○ . ○ □
244  □ . . . . . ● . ○ . □
245  □ . . . . . ● . ○ . □
246  □ . . . . . ● ○ . . □
247  □ . . . . . ● . . . . □
248  □ . ○ ● . . . . . □
249  ▣ ■ ■ ■ ■ ■ ■ ■ ■
250
251  1's turn to place a ● piece
252  1 wins
253
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