

unknown

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1 "E:\My_Python_Code\3_Standard\My_Python_Code\M_Standard\1_LW_Standard2\6_Standard\2 python code\01_My_Python_Code\Scripts\python.exe" "D:\Python\Pycharm\setroute\PyCharm Community Edition 2021.2.3\plugins\python-ce\helpers\pydev\pydevconsole.py" --mode=client --port=43437
2
3 import sys; print('Python %s on %s' % (sys.version, sys.platform))
4 sys.path.extend(['E:\My_Python_Code\3_Standard\My_Python_Code\M_Standard\1_LW_Standard2\6_Standard\2 python code\01_My_Python_Code', 'E:/1_Standard/3_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/2/6_Standard\2 python code/01_My_Python_Code'])
5
6 PyDev console: starting.
7
8 Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32
9 >>> runfile('E:/1_Standard/3_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/2/6_Standard\2 python code/01_My_Python_Code/main_BACASP_offical_PSO_2D_Bin_berth_line.py', wdir='E:/1_Standard/3_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/1_Standard/2/6_Standard\2 python code/01_My_Python_Code')
10 Backend TkAgg is interactive backend. Turning interactive mode on.
11 Waiting 1s.....
12
13 This is the R_5_2_standerd_test.xlsx optimization process.
14
15 Start
16     Read basic data
17         V = 5
18         T = 36
19         Q = 23
20         L = 30
21 PSO parameter setting:
22     Trail = 31
23     maxIter_num = 20
24     W_inertia = 2.0
25     order_type_num = 25
26     c1 = 1.5
27     c2 = 1.5
28     r1 = 0.45480092905160974
29     r2 = 0.45480092905160974
30 Begin iteration:
31
32 iter = 0
33     cord_individual_obj[individual_i, :] = [ 0.  6.  4. 10.]
34     cord_individual_obj[individual_i, :] = [ 1.  3. 10. 13.]
35     cord_individual_obj[individual_i, :] = [ 2.  3. 2. 5.]
36     cord_individual_obj[individual_i, :] = [ 3.  5. 2. 7.]
37     cord_individual_obj[individual_i, :] = [ 4.  2. 85. 87.]
38     cord_individual_obj[individual_i, :] = [ 5.  4. 80. 84.]
39     cord_individual_obj[individual_i, :] = [ 6.  3.  8. 11.]
40     cord_individual_obj[individual_i, :] = [ 7.  3. 10. 13.]
41     cord_individual_obj[individual_i, :] = [ 8.  3. 31. 34.]
42     cord_individual_obj[individual_i, :] = [ 9.  3. 2. 5.]
43     cord_individual_obj[individual_i, :] = [10.  4.  8. 12.]
44     cord_individual_obj[individual_i, :] = [11.  3. 2. 5.]
45     cord_individual_obj[individual_i, :] = [12.  5. 32. 37.]
46     cord_individual_obj[individual_i, :] = [13.  3. 18. 21.]
47     cord_individual_obj[individual_i, :] = [14.  2.  1. 3.]
48     cord_individual_obj[individual_i, :] = [15.  2. 14. 16.]
49     cord_individual_obj[individual_i, :] = [16.  2. 22. 24.]
50     cord_individual_obj[individual_i, :] = [17.  3.  1. 4.]
51     cord_individual_obj[individual_i, :] = [18.  5.  3. 8.]
52     cord_individual_obj[individual_i, :] = [19.  4. 109. 113.]
53     cord_individual_obj[individual_i, :] = [20.  2. 22. 24.]
54     cord_individual_obj[individual_i, :] = [21.  5. 46. 51.]
55     cord_individual_obj[individual_i, :] = [22.  3.  9. 12.]
56     cord_individual_obj[individual_i, :] = [23.  3. 25. 28.]
57     cord_individual_obj[individual_i, :] = [24.  3.  8. 11.]
58
59 min(cord_individual_obj[:, 3]) = 3.0
60 historl_G_best_iter[iter, 3] = 3.0
61 Begin iteration:
62
63 iter = 1
64     cord_individual_obj[individual_i, :] = [ 0.  3. 38. 41.]
65     cord_individual_obj[individual_i, :] = [ 1.  2. 69. 71.]
66     cord_individual_obj[individual_i, :] = [ 2.  3. 37. 40.]
67     cord_individual_obj[individual_i, :] = [ 3.  2.  8. 10.]
68     cord_individual_obj[individual_i, :] = [ 4.  2. 18. 20.]
69     cord_individual_obj[individual_i, :] = [ 5.  3. 2. 5.]
70     cord_individual_obj[individual_i, :] = [ 6.  2. 27. 29.]
71     cord_individual_obj[individual_i, :] = [ 7.  2. 17. 19.]
72     cord_individual_obj[individual_i, :] = [ 8.  2. 28. 30.]
73     cord_individual_obj[individual_i, :] = [ 9.  3. 22. 25.]
74     cord_individual_obj[individual_i, :] = [10.  3.  2. 5.]
75     cord_individual_obj[individual_i, :] = [11.  2. 47. 49.]
76     cord_individual_obj[individual_i, :] = [12.  3. 26. 29.]
77     cord_individual_obj[individual_i, :] = [13.  3. 2. 5.]
78     cord_individual_obj[individual_i, :] = [14.  3. 50. 53.]
79     cord_individual_obj[individual_i, :] = [15.  3. 18. 21.]

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80 cord_individual_obj[indivial_i,:] = [16. 3. 10. 13.]
81 cord_individual_obj[indivial_i,:] = [17. 4. 32. 36.]
82 cord_individual_obj[indivial_i,:] = [18. 4. 32. 36.]
83 cord_individual_obj[indivial_i,:] = [19. 2. 1. 3.]
84 cord_individual_obj[indivial_i,:] = [20. 3. 1. 4.]
85 cord_individual_obj[indivial_i,:] = [21. 3. 2. 5.]
86 cord_individual_obj[indivial_i,:] = [22. 3. 22. 25.]
87 cord_individual_obj[indivial_i,:] = [23. 3. 69. 72.]
88 cord_individual_obj[indivial_i,:] = [24. 2. 1. 3.]
89
90 min(cord_individual_obj[:,3]) = 3.0
91 historl_G_best_iter[iter,3] = 3.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 2. 61. 63.]
96 cord_individual_obj[indivial_i,:] = [ 1. 2. 47. 49.]
97 cord_individual_obj[indivial_i,:] = [ 2. 2. 49. 51.]
98 cord_individual_obj[indivial_i,:] = [ 3. 2. 8. 10.]
99 cord_individual_obj[indivial_i,:] = [ 4. 2. 37. 39.]
100 cord_individual_obj[indivial_i,:] = [ 5. 3. 18. 21.]
101 cord_individual_obj[indivial_i,:] = [ 6. 2. 27. 29.]
102 cord_individual_obj[indivial_i,:] = [ 7. 2. 17. 19.]
103 cord_individual_obj[indivial_i,:] = [ 8. 2. 37. 39.]
104 cord_individual_obj[indivial_i,:] = [ 9. 3. 21. 24.]
105 cord_individual_obj[indivial_i,:] = [10. 3. 1. 4.]
106 cord_individual_obj[indivial_i,:] = [11. 2. 26. 28.]
107 cord_individual_obj[indivial_i,:] = [12. 1. 61. 62.]
108 cord_individual_obj[indivial_i,:] = [13. 3. 2. 5.]
109 cord_individual_obj[indivial_i,:] = [14. 3. 70. 73.]
110 cord_individual_obj[indivial_i,:] = [15. 3. 8. 11.]
111 cord_individual_obj[indivial_i,:] = [16. 3. 22. 25.]
112 cord_individual_obj[indivial_i,:] = [17. 2. 8. 10.]
113 cord_individual_obj[indivial_i,:] = [18. 5. 18. 23.]
114 cord_individual_obj[indivial_i,:] = [19. 3. 2. 5.]
115 cord_individual_obj[indivial_i,:] = [20. 2. 1. 3.]
116 cord_individual_obj[indivial_i,:] = [21. 3. 10. 13.]
117 cord_individual_obj[indivial_i,:] = [22. 2. 42. 44.]
118 cord_individual_obj[indivial_i,:] = [23. 2. 1. 3.]
119 cord_individual_obj[indivial_i,:] = [24. 2. 17. 19.]
120
121 min(cord_individual_obj[:,3]) = 3.0
122 historl_G_best_iter[iter,3] = 3.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 3. 18. 21.]
127 cord_individual_obj[indivial_i,:] = [ 1. 3. 7. 10.]
128 cord_individual_obj[indivial_i,:] = [ 2. 2. 9. 11.]
129 cord_individual_obj[indivial_i,:] = [ 3. 3. 8. 11.]
130 cord_individual_obj[indivial_i,:] = [ 4. 3. 2. 5.]
131 cord_individual_obj[indivial_i,:] = [ 5. 2. 17. 19.]
132 cord_individual_obj[indivial_i,:] = [ 6. 3. 2. 5.]
133 cord_individual_obj[indivial_i,:] = [ 7. 3. 17. 20.]
134 cord_individual_obj[indivial_i,:] = [ 8. 3. 9. 12.]
135 cord_individual_obj[indivial_i,:] = [ 9. 3. 2. 5.]
136 cord_individual_obj[indivial_i,:] = [10. 3. 1. 4.]
137 cord_individual_obj[indivial_i,:] = [11. 3. 18. 21.]
138 cord_individual_obj[indivial_i,:] = [12. 2. 9. 11.]
139 cord_individual_obj[indivial_i,:] = [13. 5. 20. 25.]
140 cord_individual_obj[indivial_i,:] = [14. 2. 1. 3.]
141 cord_individual_obj[indivial_i,:] = [15. 4. 8. 12.]
142 cord_individual_obj[indivial_i,:] = [16. 4. 3. 7.]
143 cord_individual_obj[indivial_i,:] = [17. 4. 30. 34.]
144 cord_individual_obj[indivial_i,:] = [18. 4. 2. 6.]
145 cord_individual_obj[indivial_i,:] = [19. 3. 1. 4.]
146 cord_individual_obj[indivial_i,:] = [20. 3. 1. 4.]
147 cord_individual_obj[indivial_i,:] = [21. 4. 2. 6.]
148 cord_individual_obj[indivial_i,:] = [22. 2. 1. 3.]
149 cord_individual_obj[indivial_i,:] = [23. 2. 21. 23.]
150 cord_individual_obj[indivial_i,:] = [24. 3. 1. 4.]
151
152 min(cord_individual_obj[:,3]) = 3.0
153 historl_G_best_iter[iter,3] = 3.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 1. 69. 70.]
158 cord_individual_obj[indivial_i,:] = [ 1. 2. 7. 9.]
159 cord_individual_obj[indivial_i,:] = [ 2. 4. 3. 7.]
160 cord_individual_obj[indivial_i,:] = [ 3. 3. 8. 11.]
161 cord_individual_obj[indivial_i,:] = [ 4. 4. 2. 6.]
162 cord_individual_obj[indivial_i,:] = [ 5. 4. 19. 23.]
163 cord_individual_obj[indivial_i,:] = [ 6. 3. 2. 5.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 3. 8. 11.]
165 cord_individual_obj[indivial_i,:] = [ 8. 3. 9. 12.]
166 cord_individual_obj[indivial_i,:] = [9. 3. 2. 5.]
167 cord_individual_obj[indivial_i,:] = [10. 3. 1. 4.]
168 cord_individual_obj[indivial_i,:] = [11. 4. 18. 22.]
169 cord_individual_obj[indivial_i,:] = [12. 2. 9. 11.]
170 cord_individual_obj[indivial_i,:] = [13. 5. 10. 15.]
171 cord_individual_obj[indivial_i,:] = [14. 3. 2. 5.]
172 cord_individual_obj[indivial_i,:] = [15. 5. 9. 14.]
173 cord_individual_obj[indivial_i,:] = [16. 4. 3. 7.]
174 cord_individual_obj[indivial_i,:] = [17. 2. 1. 3.]
175 cord_individual_obj[indivial_i,:] = [18. 3. 22. 25.]
176 cord_individual_obj[indivial_i,:] = [19. 1. 1. 2.]
177 cord_individual_obj[indivial_i,:] = [20. 3. 1. 4.]
178 cord_individual_obj[indivial_i,:] = [21. 3. 2. 5.]
179 cord_individual_obj[indivial_i,:] = [22. 3. 1. 4.]
180 cord_individual_obj[indivial_i,:] = [23. 2. 27. 29.]
181 cord_individual_obj[indivial_i,:] = [24. 2. 1. 3.]
182
183 min(cord_individual_obj[:,3]) = 2.0
184 historl_G_best_iter[iter,3] = 2.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [0. 1. 1. 2.]
189 cord_individual_obj[indivial_i,:] = [ 1. 3. 26. 29.]
190 cord_individual_obj[indivial_i,:] = [ 2. 2. 21. 23.]
191 cord_individual_obj[indivial_i,:] = [ 3. 3. 26. 29.]
192 cord_individual_obj[indivial_i,:] = [ 4. 3. 14. 17.]
193 cord_individual_obj[indivial_i,:] = [ 5. 3. 21. 24.]
194 cord_individual_obj[indivial_i,:] = [ 6. 2. 17. 19.]
195 cord_individual_obj[indivial_i,:] = [ 7. 3. 1. 4.]
196 cord_individual_obj[indivial_i,:] = [ 8. 3. 9. 12.]
197 cord_individual_obj[indivial_i,:] = [ 9. 3. 10. 13.]
198 cord_individual_obj[indivial_i,:] = [10. 3. 1. 4.]
199 cord_individual_obj[indivial_i,:] = [11. 3. 2. 5.]
200 cord_individual_obj[indivial_i,:] = [12. 2. 21. 23.]
201 cord_individual_obj[indivial_i,:] = [13. 4. 3. 7.]
202 cord_individual_obj[indivial_i,:] = [14. 4. 41. 45.]
203 cord_individual_obj[indivial_i,:] = [15. 3. 2. 5.]
204 cord_individual_obj[indivial_i,:] = [16. 3. 2. 5.]
205 cord_individual_obj[indivial_i,:] = [17. 3. 2. 5.]
206 cord_individual_obj[indivial_i,:] = [18. 3. 10. 13.]
207 cord_individual_obj[indivial_i,:] = [19. 2. 1. 3.]
208 cord_individual_obj[indivial_i,:] = [20. 3. 1. 4.]
209 cord_individual_obj[indivial_i,:] = [21. 4. 3. 7.]
210 cord_individual_obj[indivial_i,:] = [22. 3. 1. 4.]
211 cord_individual_obj[indivial_i,:] = [23. 3. 21. 24.]
212 cord_individual_obj[indivial_i,:] = [24. 2. 9. 11.]
213
214 min(cord_individual_obj[:,3]) = 2.0
215 historl_G_best_iter[iter,3] = 2.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 2. 37. 39.]
220 cord_individual_obj[indivial_i,:] = [ 1. 3. 18. 21.]
221 cord_individual_obj[indivial_i,:] = [ 2. 3. 2. 5.]
222 cord_individual_obj[indivial_i,:] = [ 3. 3. 50. 53.]
223 cord_individual_obj[indivial_i,:] = [ 4. 3. 14. 17.]
224 cord_individual_obj[indivial_i,:] = [ 5. 3. 14. 17.]
225 cord_individual_obj[indivial_i,:] = [ 6. 3. 17. 20.]
226 cord_individual_obj[indivial_i,:] = [ 7. 3. 2. 5.]
227 cord_individual_obj[indivial_i,:] = [ 8. 3. 10. 13.]
228 cord_individual_obj[indivial_i,:] = [ 9. 3. 10. 13.]
229 cord_individual_obj[indivial_i,:] = [10. 3. 1. 4.]
230 cord_individual_obj[indivial_i,:] = [11. 3. 26. 29.]
231 cord_individual_obj[indivial_i,:] = [12. 2. 21. 23.]
232 cord_individual_obj[indivial_i,:] = [13. 4. 3. 7.]
233 cord_individual_obj[indivial_i,:] = [14. 1. 1. 2.]
234 cord_individual_obj[indivial_i,:] = [15. 4. 2. 6.]
235 cord_individual_obj[indivial_i,:] = [16. 3. 2. 5.]
236 cord_individual_obj[indivial_i,:] = [17. 3. 14. 17.]
237 cord_individual_obj[indivial_i,:] = [18. 3. 10. 13.]
238 cord_individual_obj[indivial_i,:] = [19. 3. 1. 4.]
239 cord_individual_obj[indivial_i,:] = [20. 2. 1. 3.]
240 cord_individual_obj[indivial_i,:] = [21. 3. 1. 4.]
241 cord_individual_obj[indivial_i,:] = [22. 2. 1. 3.]
242 cord_individual_obj[indivial_i,:] = [23. 3. 21. 24.]
243 cord_individual_obj[indivial_i,:] = [24. 3. 1. 4.]
244
245 min(cord_individual_obj[:,3]) = 2.0
246 historl_G_best_iter[iter,3] = 2.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0.  3. 42. 45.]
251 cord_individual_obj[indivial_i, :] = [ 1.  2. 17. 19.]
252 cord_individual_obj[indivial_i, :] = [2. 3. 2. 5.]
253 cord_individual_obj[indivial_i, :] = [3. 1. 1. 2.]
254 cord_individual_obj[indivial_i, :] = [ 4.  4. 38. 42.]
255 cord_individual_obj[indivial_i, :] = [ 5.  3. 21. 24.]
256 cord_individual_obj[indivial_i, :] = [ 6.  2. 17. 19.]
257 cord_individual_obj[indivial_i, :] = [ 7.  3.  8. 11.]
258 cord_individual_obj[indivial_i, :] = [ 8.  3.  9. 12.]
259 cord_individual_obj[indivial_i, :] = [ 9.  3. 10. 13.]
260 cord_individual_obj[indivial_i, :] = [10. 2.  1. 3.]
261 cord_individual_obj[indivial_i, :] = [11. 4. 47. 51.]
262 cord_individual_obj[indivial_i, :] = [12. 2. 21. 23.]
263 cord_individual_obj[indivial_i, :] = [13. 4.  3. 7.]
264 cord_individual_obj[indivial_i, :] = [14. 3. 21. 24.]
265 cord_individual_obj[indivial_i, :] = [15. 4. 18. 22.]
266 cord_individual_obj[indivial_i, :] = [16. 4.  3. 7.]
267 cord_individual_obj[indivial_i, :] = [17. 4. 34. 38.]
268 cord_individual_obj[indivial_i, :] = [18. 3.  2. 5.]
269 cord_individual_obj[indivial_i, :] = [19. 2.  1. 3.]
270 cord_individual_obj[indivial_i, :] = [20. 3.  1. 4.]
271 cord_individual_obj[indivial_i, :] = [21. 3.  2. 5.]
272 cord_individual_obj[indivial_i, :] = [22. 3.  1. 4.]
273 cord_individual_obj[indivial_i, :] = [23. 1. 37. 38.]
274 cord_individual_obj[indivial_i, :] = [24. 2.  1. 3.]
275

276 min(cord_individual_obj[:, 3]) = 2.0
277 historl_G_best_iter[iter, 3] = 2.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0.  2. 37. 39.]
282 cord_individual_obj[indivial_i, :] = [ 1.  3.  8. 11.]
283 cord_individual_obj[indivial_i, :] = [ 2.  1. 37. 38.]
284 cord_individual_obj[indivial_i, :] = [ 3.  2. 38. 40.]
285 cord_individual_obj[indivial_i, :] = [ 4.  3. 14. 17.]
286 cord_individual_obj[indivial_i, :] = [ 5.  2. 21. 23.]
287 cord_individual_obj[indivial_i, :] = [ 6.  2. 37. 39.]
288 cord_individual_obj[indivial_i, :] = [ 7.  3.  1. 4.]
289 cord_individual_obj[indivial_i, :] = [ 8.  3.  9. 12.]
290 cord_individual_obj[indivial_i, :] = [ 9.  3. 22. 25.]
291 cord_individual_obj[indivial_i, :] = [10. 2.  1. 3.]
292 cord_individual_obj[indivial_i, :] = [11. 1.  1. 2.]
293 cord_individual_obj[indivial_i, :] = [12. 2. 21. 23.]
294 cord_individual_obj[indivial_i, :] = [13. 4.  3. 7.]
295 cord_individual_obj[indivial_i, :] = [14. 3. 19. 22.]
296 cord_individual_obj[indivial_i, :] = [15. 3.  2. 5.]
297 cord_individual_obj[indivial_i, :] = [16. 3.  2. 5.]
298 cord_individual_obj[indivial_i, :] = [17. 5.  2. 7.]
299 cord_individual_obj[indivial_i, :] = [18. 3. 10. 13.]
300 cord_individual_obj[indivial_i, :] = [19. 2.  1. 3.]
301 cord_individual_obj[indivial_i, :] = [20. 3.  1. 4.]
302 cord_individual_obj[indivial_i, :] = [21. 3.  2. 5.]
303 cord_individual_obj[indivial_i, :] = [22. 3.  1. 4.]
304 cord_individual_obj[indivial_i, :] = [23. 3. 21. 24.]
305 cord_individual_obj[indivial_i, :] = [24. 2.  9. 11.]
306

307 min(cord_individual_obj[:, 3]) = 2.0
308 historl_G_best_iter[iter, 3] = 2.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0.  3. 37. 40.]
313 cord_individual_obj[indivial_i, :] = [ 1.  2. 22. 24.]
314 cord_individual_obj[indivial_i, :] = [ 2.  3. 37. 40.]
315 cord_individual_obj[indivial_i, :] = [ 3.  1. 1. 2.]
316 cord_individual_obj[indivial_i, :] = [ 4.  3. 2. 5.]
317 cord_individual_obj[indivial_i, :] = [ 5.  3. 9. 12.]
318 cord_individual_obj[indivial_i, :] = [ 6.  2. 37. 39.]
319 cord_individual_obj[indivial_i, :] = [ 7.  2. 1. 3.]
320 cord_individual_obj[indivial_i, :] = [ 8.  2. 28. 30.]
321 cord_individual_obj[indivial_i, :] = [ 9.  2. 21. 23.]
322 cord_individual_obj[indivial_i, :] = [10. 2.  1. 3.]
323 cord_individual_obj[indivial_i, :] = [11. 2. 61. 63.]
324 cord_individual_obj[indivial_i, :] = [12. 1. 37. 38.]
325 cord_individual_obj[indivial_i, :] = [13. 2.  1. 3.]
326 cord_individual_obj[indivial_i, :] = [14. 2. 21. 23.]
327 cord_individual_obj[indivial_i, :] = [15. 3.  2. 5.]
328 cord_individual_obj[indivial_i, :] = [16. 3. 22. 25.]
329 cord_individual_obj[indivial_i, :] = [17. 2.  2. 4.]
330 cord_individual_obj[indivial_i, :] = [18. 3. 22. 25.]
331 cord_individual_obj[indivial_i, :] = [19. 2.  1. 3.]

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332 cord_individual_obj[indivial_i, :] = [20. 2. 1. 3.]
333 cord_individual_obj[indivial_i, :] = [21. 3. 2. 5.]
334 cord_individual_obj[indivial_i, :] = [22. 2. 1. 3.]
335 cord_individual_obj[indivial_i, :] = [23. 3. 21. 24.]
336 cord_individual_obj[indivial_i, :] = [24. 3. 9. 12.]
337
338 min(cord_individual_obj[:, 3]) = 2.0
339 histol_G_best_iter[iter, 3] = 2.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i, :] = [ 0. 2. 37. 39.]
344 cord_individual_obj[indivial_i, :] = [ 1. 2. 21. 23.]
345 cord_individual_obj[indivial_i, :] = [ 2. 3. 37. 40.]
346 cord_individual_obj[indivial_i, :] = [ 3. 2. 38. 40.]
347 cord_individual_obj[indivial_i, :] = [ 4. 3. 2. 5.]
348 cord_individual_obj[indivial_i, :] = [ 5. 3. 1. 4.]
349 cord_individual_obj[indivial_i, :] = [ 6. 2. 37. 39.]
350 cord_individual_obj[indivial_i, :] = [ 7. 2. 1. 3.]
351 cord_individual_obj[indivial_i, :] = [ 8. 2. 21. 23.]
352 cord_individual_obj[indivial_i, :] = [ 9. 3. 22. 25.]
353 cord_individual_obj[indivial_i, :] = [10. 2. 1. 3.]
354 cord_individual_obj[indivial_i, :] = [11. 1. 1. 2.]
355 cord_individual_obj[indivial_i, :] = [12. 2. 21. 23.]
356 cord_individual_obj[indivial_i, :] = [13. 2. 37. 39.]
357 cord_individual_obj[indivial_i, :] = [14. 2. 1. 3.]
358 cord_individual_obj[indivial_i, :] = [15. 3. 2. 5.]
359 cord_individual_obj[indivial_i, :] = [16. 2. 22. 24.]
360 cord_individual_obj[indivial_i, :] = [17. 3. 2. 5.]
361 cord_individual_obj[indivial_i, :] = [18. 3. 10. 13.]
362 cord_individual_obj[indivial_i, :] = [19. 2. 1. 3.]
363 cord_individual_obj[indivial_i, :] = [20. 3. 1. 4.]
364 cord_individual_obj[indivial_i, :] = [21. 3. 10. 13.]
365 cord_individual_obj[indivial_i, :] = [22. 2. 1. 3.]
366 cord_individual_obj[indivial_i, :] = [23. 3. 37. 40.]
367 cord_individual_obj[indivial_i, :] = [24. 2. 21. 23.]
368
369 min(cord_individual_obj[:, 3]) = 2.0
370 histol_G_best_iter[iter, 3] = 2.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i, :] = [ 0. 3. 37. 40.]
375 cord_individual_obj[indivial_i, :] = [ 1. 2. 28. 30.]
376 cord_individual_obj[indivial_i, :] = [ 2. 1. 1. 2.]
377 cord_individual_obj[indivial_i, :] = [ 3. 3. 50. 53.]
378 cord_individual_obj[indivial_i, :] = [ 4. 3. 14. 17.]
379 cord_individual_obj[indivial_i, :] = [ 5. 2. 1. 3.]
380 cord_individual_obj[indivial_i, :] = [ 6. 3. 37. 40.]
381 cord_individual_obj[indivial_i, :] = [ 7. 3. 1. 4.]
382 cord_individual_obj[indivial_i, :] = [ 8. 3. 21. 24.]
383 cord_individual_obj[indivial_i, :] = [ 9. 3. 22. 25.]
384 cord_individual_obj[indivial_i, :] = [10. 3. 1. 4.]
385 cord_individual_obj[indivial_i, :] = [11. 2. 61. 63.]
386 cord_individual_obj[indivial_i, :] = [12. 3. 21. 24.]
387 cord_individual_obj[indivial_i, :] = [13. 4. 3. 7.]
388 cord_individual_obj[indivial_i, :] = [14. 3. 21. 24.]
389 cord_individual_obj[indivial_i, :] = [15. 3. 2. 5.]
390 cord_individual_obj[indivial_i, :] = [16. 3. 2. 5.]
391 cord_individual_obj[indivial_i, :] = [17. 3. 32. 35.]
392 cord_individual_obj[indivial_i, :] = [18. 3. 10. 13.]
393 cord_individual_obj[indivial_i, :] = [19. 3. 1. 4.]
394 cord_individual_obj[indivial_i, :] = [20. 3. 1. 4.]
395 cord_individual_obj[indivial_i, :] = [21. 3. 2. 5.]
396 cord_individual_obj[indivial_i, :] = [22. 3. 1. 4.]
397 cord_individual_obj[indivial_i, :] = [23. 2. 21. 23.]
398 cord_individual_obj[indivial_i, :] = [24. 3. 21. 24.]
399
400 min(cord_individual_obj[:, 3]) = 2.0
401 histol_G_best_iter[iter, 3] = 2.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i, :] = [ 0. 3. 42. 45.]
406 cord_individual_obj[indivial_i, :] = [ 1. 3. 55. 58.]
407 cord_individual_obj[indivial_i, :] = [ 2. 3. 37. 40.]
408 cord_individual_obj[indivial_i, :] = [ 3. 2. 50. 52.]
409 cord_individual_obj[indivial_i, :] = [ 4. 3. 14. 17.]
410 cord_individual_obj[indivial_i, :] = [ 5. 4. 69. 73.]
411 cord_individual_obj[indivial_i, :] = [ 6. 2. 17. 19.]
412 cord_individual_obj[indivial_i, :] = [ 7. 3. 2. 5.]
413 cord_individual_obj[indivial_i, :] = [ 8. 3. 10. 13.]
414 cord_individual_obj[indivial_i, :] = [ 9. 3. 10. 13.]
415 cord_individual_obj[indivial_i, :] = [10. 1. 1. 2.]

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416 cord_individual_obj[indivial_i,:] = [11. 1. 1. 2.]
417 cord_individual_obj[indivial_i,:] = [12. 2. 21. 23.]
418 cord_individual_obj[indivial_i,:] = [13. 4. 3. 7.]
419 cord_individual_obj[indivial_i,:] = [14. 3. 17. 20.]
420 cord_individual_obj[indivial_i,:] = [15. 2. 14. 16.]
421 cord_individual_obj[indivial_i,:] = [16. 3. 42. 45.]
422 cord_individual_obj[indivial_i,:] = [17. 3. 34. 37.]
423 cord_individual_obj[indivial_i,:] = [18. 3. 50. 53.]
424 cord_individual_obj[indivial_i,:] = [19. 2. 1. 3.]
425 cord_individual_obj[indivial_i,:] = [20. 3. 1. 4.]
426 cord_individual_obj[indivial_i,:] = [21. 3. 2. 5.]
427 cord_individual_obj[indivial_i,:] = [22. 2. 1. 3.]
428 cord_individual_obj[indivial_i,:] = [23. 2. 41. 43.]
429 cord_individual_obj[indivial_i,:] = [24. 2. 1. 3.]
430
431 min(cord_individual_obj[:,3]) = 2.0
432 histol_G_best_iter[iter,3] = 2.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 2. 37. 39.]
437 cord_individual_obj[indivial_i,:] = [1. 3. 2. 5.]
438 cord_individual_obj[indivial_i,:] = [2. 2. 2. 4.]
439 cord_individual_obj[indivial_i,:] = [3. 2. 50. 52.]
440 cord_individual_obj[indivial_i,:] = [4. 2. 1. 3.]
441 cord_individual_obj[indivial_i,:] = [5. 1. 1. 2.]
442 cord_individual_obj[indivial_i,:] = [6. 2. 1. 3.]
443 cord_individual_obj[indivial_i,:] = [7. 3. 1. 4.]
444 cord_individual_obj[indivial_i,:] = [8. 3. 22. 25.]
445 cord_individual_obj[indivial_i,:] = [9. 3. 2. 5.]
446 cord_individual_obj[indivial_i,:] = [10. 2. 1. 3.]
447 cord_individual_obj[indivial_i,:] = [11. 3. 2. 5.]
448 cord_individual_obj[indivial_i,:] = [12. 3. 2. 5.]
449 cord_individual_obj[indivial_i,:] = [13. 3. 2. 5.]
450 cord_individual_obj[indivial_i,:] = [14. 3. 2. 5.]
451 cord_individual_obj[indivial_i,:] = [15. 3. 2. 5.]
452 cord_individual_obj[indivial_i,:] = [16. 3. 2. 5.]
453 cord_individual_obj[indivial_i,:] = [17. 3. 2. 5.]
454 cord_individual_obj[indivial_i,:] = [18. 3. 2. 5.]
455 cord_individual_obj[indivial_i,:] = [19. 2. 1. 3.]
456 cord_individual_obj[indivial_i,:] = [20. 3. 1. 4.]
457 cord_individual_obj[indivial_i,:] = [21. 3. 2. 5.]
458 cord_individual_obj[indivial_i,:] = [22. 3. 1. 4.]
459 cord_individual_obj[indivial_i,:] = [23. 1. 1. 2.]
460 cord_individual_obj[indivial_i,:] = [24. 3. 2. 5.]
461
462 min(cord_individual_obj[:,3]) = 2.0
463 histol_G_best_iter[iter,3] = 2.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 2. 69. 71.]
468 cord_individual_obj[indivial_i,:] = [1. 2. 57. 59.]
469 cord_individual_obj[indivial_i,:] = [2. 2. 2. 4.]
470 cord_individual_obj[indivial_i,:] = [3. 1. 1. 2.]
471 cord_individual_obj[indivial_i,:] = [4. 3. 17. 20.]
472 cord_individual_obj[indivial_i,:] = [5. 3. 2. 5.]
473 cord_individual_obj[indivial_i,:] = [6. 3. 10. 13.]
474 cord_individual_obj[indivial_i,:] = [7. 2. 1. 3.]
475 cord_individual_obj[indivial_i,:] = [8. 3. 13. 16.]
476 cord_individual_obj[indivial_i,:] = [9. 3. 2. 5.]
477 cord_individual_obj[indivial_i,:] = [10. 3. 13. 16.]
478 cord_individual_obj[indivial_i,:] = [11. 3. 49. 52.]
479 cord_individual_obj[indivial_i,:] = [12. 3. 10. 13.]
480 cord_individual_obj[indivial_i,:] = [13. 3. 2. 5.]
481 cord_individual_obj[indivial_i,:] = [14. 3. 31. 34.]
482 cord_individual_obj[indivial_i,:] = [15. 4. 14. 18.]
483 cord_individual_obj[indivial_i,:] = [16. 3. 21. 24.]
484 cord_individual_obj[indivial_i,:] = [17. 3. 32. 35.]
485 cord_individual_obj[indivial_i,:] = [18. 5. 8. 13.]
486 cord_individual_obj[indivial_i,:] = [19. 3. 1. 4.]
487 cord_individual_obj[indivial_i,:] = [20. 3. 1. 4.]
488 cord_individual_obj[indivial_i,:] = [21. 3. 2. 5.]
489 cord_individual_obj[indivial_i,:] = [22. 3. 37. 40.]
490 cord_individual_obj[indivial_i,:] = [23. 3. 17. 20.]
491 cord_individual_obj[indivial_i,:] = [24. 2. 8. 10.]
492
493 min(cord_individual_obj[:,3]) = 2.0
494 histol_G_best_iter[iter,3] = 2.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [0. 1. 1. 2.]
499 cord_individual_obj[indivial_i,:] = [1. 3. 2. 5.]

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500 cord_individual_obj[indivial_i, :] = [ 2. 3. 37. 40.]
501 cord_individual_obj[indivial_i, :] = [ 3. 2. 2. 4.]
502 cord_individual_obj[indivial_i, :] = [ 4. 3. 2. 5.]
503 cord_individual_obj[indivial_i, :] = [ 5. 5. 20. 25.]
504 cord_individual_obj[indivial_i, :] = [ 6. 3. 18. 21.]
505 cord_individual_obj[indivial_i, :] = [ 7. 3. 1. 4.]
506 cord_individual_obj[indivial_i, :] = [ 8. 2. 9. 11.]
507 cord_individual_obj[indivial_i, :] = [ 9. 3. 2. 5.]
508 cord_individual_obj[indivial_i, :] = [10. 3. 1. 4.]
509 cord_individual_obj[indivial_i, :] = [11. 2. 50. 52.]
510 cord_individual_obj[indivial_i, :] = [12. 3. 10. 13.]
511 cord_individual_obj[indivial_i, :] = [13. 3. 2. 5.]
512 cord_individual_obj[indivial_i, :] = [14. 3. 2. 5.]
513 cord_individual_obj[indivial_i, :] = [15. 4. 2. 6.]
514 cord_individual_obj[indivial_i, :] = [16. 3. 2. 5.]
515 cord_individual_obj[indivial_i, :] = [17. 3. 9. 12.]
516 cord_individual_obj[indivial_i, :] = [18. 4. 3. 7.]
517 cord_individual_obj[indivial_i, :] = [19. 3. 1. 4.]
518 cord_individual_obj[indivial_i, :] = [20. 3. 1. 4.]
519 cord_individual_obj[indivial_i, :] = [21. 4. 2. 6.]
520 cord_individual_obj[indivial_i, :] = [22. 3. 1. 4.]
521 cord_individual_obj[indivial_i, :] = [23. 3. 17. 20.]
522 cord_individual_obj[indivial_i, :] = [24. 2. 14. 16.]
523
524 min(cord_individual_obj[:, 3]) = 2.0
525 histol_G_best_iter[iter, 3] = 2.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i, :] = [ 0. 2. 21. 23.]
530 cord_individual_obj[indivial_i, :] = [ 1. 2. 2. 4.]
531 cord_individual_obj[indivial_i, :] = [ 2. 2. 14. 16.]
532 cord_individual_obj[indivial_i, :] = [ 3. 2. 2. 4.]
533 cord_individual_obj[indivial_i, :] = [ 4. 2. 1. 3.]
534 cord_individual_obj[indivial_i, :] = [ 5. 3. 2. 5.]
535 cord_individual_obj[indivial_i, :] = [ 6. 1. 1. 2.]
536 cord_individual_obj[indivial_i, :] = [ 7. 3. 1. 4.]
537 cord_individual_obj[indivial_i, :] = [ 8. 3. 22. 25.]
538 cord_individual_obj[indivial_i, :] = [ 9. 2. 2. 4.]
539 cord_individual_obj[indivial_i, :] = [10. 2. 1. 3.]
540 cord_individual_obj[indivial_i, :] = [11. 1. 1. 2.]
541 cord_individual_obj[indivial_i, :] = [12. 2. 2. 4.]
542 cord_individual_obj[indivial_i, :] = [13. 1. 1. 2.]
543 cord_individual_obj[indivial_i, :] = [14. 2. 2. 4.]
544 cord_individual_obj[indivial_i, :] = [15. 3. 2. 5.]
545 cord_individual_obj[indivial_i, :] = [16. 3. 2. 5.]
546 cord_individual_obj[indivial_i, :] = [17. 2. 14. 16.]
547 cord_individual_obj[indivial_i, :] = [18. 2. 1. 3.]
548 cord_individual_obj[indivial_i, :] = [19. 2. 1. 3.]
549 cord_individual_obj[indivial_i, :] = [20. 2. 1. 3.]
550 cord_individual_obj[indivial_i, :] = [21. 3. 2. 5.]
551 cord_individual_obj[indivial_i, :] = [22. 2. 1. 3.]
552 cord_individual_obj[indivial_i, :] = [23. 1. 1. 2.]
553 cord_individual_obj[indivial_i, :] = [24. 2. 1. 3.]
554
555 min(cord_individual_obj[:, 3]) = 2.0
556 histol_G_best_iter[iter, 3] = 2.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i, :] = [ 0. 2. 21. 23.]
561 cord_individual_obj[indivial_i, :] = [ 1. 2. 7. 9.]
562 cord_individual_obj[indivial_i, :] = [ 2. 2. 2. 4.]
563 cord_individual_obj[indivial_i, :] = [ 3. 2. 50. 52.]
564 cord_individual_obj[indivial_i, :] = [ 4. 3. 50. 53.]
565 cord_individual_obj[indivial_i, :] = [ 5. 4. 47. 51.]
566 cord_individual_obj[indivial_i, :] = [ 6. 3. 22. 25.]
567 cord_individual_obj[indivial_i, :] = [ 7. 2. 17. 19.]
568 cord_individual_obj[indivial_i, :] = [ 8. 1. 1. 2.]
569 cord_individual_obj[indivial_i, :] = [ 9. 3. 2. 5.]
570 cord_individual_obj[indivial_i, :] = [10. 3. 37. 40.]
571 cord_individual_obj[indivial_i, :] = [11. 2. 8. 10.]
572 cord_individual_obj[indivial_i, :] = [12. 3. 22. 25.]
573 cord_individual_obj[indivial_i, :] = [13. 3. 8. 11.]
574 cord_individual_obj[indivial_i, :] = [14. 4. 41. 45.]
575 cord_individual_obj[indivial_i, :] = [15. 4. 30. 34.]
576 cord_individual_obj[indivial_i, :] = [16. 2. 18. 20.]
577 cord_individual_obj[indivial_i, :] = [17. 3. 32. 35.]
578 cord_individual_obj[indivial_i, :] = [18. 3. 2. 5.]
579 cord_individual_obj[indivial_i, :] = [19. 3. 1. 4.]
580 cord_individual_obj[indivial_i, :] = [20. 3. 1. 4.]
581 cord_individual_obj[indivial_i, :] = [21. 5. 3. 8.]
582 cord_individual_obj[indivial_i, :] = [22. 3. 1. 4.]
583 cord_individual_obj[indivial_i, :] = [23. 2. 37. 39.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 3. 1. 4.]
585
586     min(cord_individual_obj[:, 3]) = 2.0
587     historl_G_best_iter[iter, 3] = 2.0
588 Begin iteration:
589
590 iter = 18
591     cord_individual_obj[indivial_i, :] = [ 0. 1. 21. 22.]
592     cord_individual_obj[indivial_i, :] = [ 1. 3. 22. 25.]
593     cord_individual_obj[indivial_i, :] = [ 2. 2. 38. 40.]
594     cord_individual_obj[indivial_i, :] = [ 3. 2. 26. 28.]
595     cord_individual_obj[indivial_i, :] = [4. 1. 1. 2.]
596     cord_individual_obj[indivial_i, :] = [ 5. 3. 10. 13.]
597     cord_individual_obj[indivial_i, :] = [ 6. 3. 22. 25.]
598     cord_individual_obj[indivial_i, :] = [ 7. 1. 1. 2.]
599     cord_individual_obj[indivial_i, :] = [ 8. 3. 22. 25.]
600     cord_individual_obj[indivial_i, :] = [ 9. 2. 21. 23.]
601     cord_individual_obj[indivial_i, :] = [10. 2. 1. 3.]
602     cord_individual_obj[indivial_i, :] = [11. 2. 38. 40.]
603     cord_individual_obj[indivial_i, :] = [12. 3. 22. 25.]
604     cord_individual_obj[indivial_i, :] = [13. 2. 42. 44.]
605     cord_individual_obj[indivial_i, :] = [14. 3. 28. 31.]
606     cord_individual_obj[indivial_i, :] = [15. 3. 2. 5.]
607     cord_individual_obj[indivial_i, :] = [16. 2. 10. 12.]
608     cord_individual_obj[indivial_i, :] = [17. 2. 50. 52.]
609     cord_individual_obj[indivial_i, :] = [18. 3. 10. 13.]
610     cord_individual_obj[indivial_i, :] = [19. 2. 1. 3.]
611     cord_individual_obj[indivial_i, :] = [20. 2. 9. 11.]
612     cord_individual_obj[indivial_i, :] = [21. 3. 2. 5.]
613     cord_individual_obj[indivial_i, :] = [22. 2. 37. 39.]
614     cord_individual_obj[indivial_i, :] = [23. 2. 21. 23.]
615     cord_individual_obj[indivial_i, :] = [24. 3. 1. 4.]
616
617     min(cord_individual_obj[:, 3]) = 2.0
618     historl_G_best_iter[iter, 3] = 2.0
619 Begin iteration:
620
621 iter = 19
622     cord_individual_obj[indivial_i, :] = [ 0. 2. 69. 71.]
623     cord_individual_obj[indivial_i, :] = [ 1. 2. 93. 95.]
624     cord_individual_obj[indivial_i, :] = [ 2. 2. 14. 16.]
625     cord_individual_obj[indivial_i, :] = [ 3. 2. 49. 51.]
626     cord_individual_obj[indivial_i, :] = [ 4. 3. 22. 25.]
627     cord_individual_obj[indivial_i, :] = [ 5. 2. 129. 131.]
628     cord_individual_obj[indivial_i, :] = [ 6. 3. 18. 21.]
629     cord_individual_obj[indivial_i, :] = [ 7. 3. 2. 5.]
630     cord_individual_obj[indivial_i, :] = [ 8. 2. 9. 11.]
631     cord_individual_obj[indivial_i, :] = [ 9. 3. 1. 4.]
632     cord_individual_obj[indivial_i, :] = [10. 3. 1. 4.]
633     cord_individual_obj[indivial_i, :] = [11. 2. 50. 52.]
634     cord_individual_obj[indivial_i, :] = [12. 3. 10. 13.]
635     cord_individual_obj[indivial_i, :] = [13. 4. 3. 7.]
636     cord_individual_obj[indivial_i, :] = [14. 3. 31. 34.]
637     cord_individual_obj[indivial_i, :] = [15. 4. 2. 6.]
638     cord_individual_obj[indivial_i, :] = [16. 3. 58. 61.]
639     cord_individual_obj[indivial_i, :] = [17. 1. 1. 2.]
640     cord_individual_obj[indivial_i, :] = [18. 5. 18. 23.]
641     cord_individual_obj[indivial_i, :] = [19. 3. 1. 4.]
642     cord_individual_obj[indivial_i, :] = [20. 3. 1. 4.]
643     cord_individual_obj[indivial_i, :] = [21. 4. 2. 6.]
644     cord_individual_obj[indivial_i, :] = [22. 3. 1. 4.]
645     cord_individual_obj[indivial_i, :] = [23. 4. 25. 29.]
646     cord_individual_obj[indivial_i, :] = [24. 3. 1. 4.]
647
648     min(cord_individual_obj[:, 3]) = 2.0
649     historl_G_best_iter[iter, 3] = 2.0
650 Begin iteration:
651
652 iter = 20
653     cord_individual_obj[indivial_i, :] = [ 0. 2. 37. 39.]
654     cord_individual_obj[indivial_i, :] = [ 1. 3. 2. 5.]
655     cord_individual_obj[indivial_i, :] = [ 2. 2. 38. 40.]
656     cord_individual_obj[indivial_i, :] = [ 3. 2. 38. 40.]
657     cord_individual_obj[indivial_i, :] = [ 4. 3. 22. 25.]
658     cord_individual_obj[indivial_i, :] = [ 5. 1. 1. 2.]
659     cord_individual_obj[indivial_i, :] = [ 6. 2. 38. 40.]
660     cord_individual_obj[indivial_i, :] = [ 7. 3. 1. 4.]
661     cord_individual_obj[indivial_i, :] = [ 8. 3. 1. 4.]
662     cord_individual_obj[indivial_i, :] = [ 9. 1. 37. 38.]
663     cord_individual_obj[indivial_i, :] = [10. 2. 1. 3.]
664     cord_individual_obj[indivial_i, :] = [11. 3. 42. 45.]
665     cord_individual_obj[indivial_i, :] = [12. 3. 38. 41.]
666     cord_individual_obj[indivial_i, :] = [13. 1. 1. 2.]
667     cord_individual_obj[indivial_i, :] = [14. 2. 21. 23.]
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668 cord_individual_obj[indivial_i, :] = [15. 3. 2. 5.]
669 cord_individual_obj[indivial_i, :] = [16. 2. 37. 39.]
670 cord_individual_obj[indivial_i, :] = [17. 3. 32. 35.]
671 cord_individual_obj[indivial_i, :] = [18. 2. 1. 3.]
672 cord_individual_obj[indivial_i, :] = [19. 1. 1. 2.]
673 cord_individual_obj[indivial_i, :] = [20. 3. 1. 4.]
674 cord_individual_obj[indivial_i, :] = [21. 3. 22. 25.]
675 cord_individual_obj[indivial_i, :] = [22. 2. 37. 39.]
676 cord_individual_obj[indivial_i, :] = [23. 2. 61. 63.]
677 cord_individual_obj[indivial_i, :] = [24. 3. 1. 4.]
678
679 min(cord_individual_obj[:, 3]) = 2.0
680 historl_G_best_iter[iter, 3] = 2.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 67.0
689 Proportion_of_area = 0.062037037037037036
690 BEST_CHROM =
691     berth: [15.5 22.5 3.5 9. 15.5]
692     time: [0. 0. 0. 0. 1.]
693     num_QC: [5. 2. 5. 4. 6.]
694 Objective function values and some other indicators:
695 Obj0 = 1.00          Obj1 = 1.00          Obj0 + Obj1 = 2.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 1.00
698 Total index of q during berthing: 309.00
699 Specific arrangement for each vessel:
700
    V_id: 0           li: 9.0           xi: 15.5           bow of i: 11.0           tail of i: 20.0           gama_i0: 0.0           gama_i1: 0
    .0             gama_i1 + 1: 1.0           gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 100.0           work
701 load_i: 100.0
    V_id: 1           li: 5.0           xi: 22.5           bow of i: 20.0           tail of i: 25.0           gama_i0: 0.0           gama_i1: 1
    .0             gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work
    load_i: 80.0
    work load gap_i: 0
702
    V_id: 2           li: 7.0           xi: 3.5           bow of i: 0.0           tail of i: 7.0           gama_i0: 0.0           gama_i1: 1.0
    160.0            gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0           work load_i:
    160.0
    work load gap_i: 0
703
    V_id: 3           li: 4.0           xi: 9.0           bow of i: 7.0           tail of i: 11.0           gama_i0: 0.0           gama_i1: 1.0
    160.0            gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0           work load_i:
    160.0
    work load gap_i: 0
704
    V_id: 4           li: 9.0           xi: 15.5           bow of i: 11.0           tail of i: 20.0           gama_i0: 1.0           gama_i1: 1
    .0             gama_i1 + 1: 2.0           gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 120.0           work
    load_i: 120.0
    work load gap_i: 0
705
706 Algorithm finished and the total CPU time: 132 s
707 End
708

```