

unknown

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1 "E:\1 2\3 2\2\1\1\1_2\1_LW_2\6 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=18542
2
3 import sys; print('Python %s on %s' % (sys.version, sys.platform))
4 sys.path.extend(['E:\1 2\2\1\1\1_2\1_LW_2\6 2 python code\01_My_Python_Code', 'E:/1 2\2\1\1\1_2\1_LW_2\6 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 2\2\1\1\1_2\1_LW_2\6 2 python code\01_My_Python_Code/main_BACASP_offical_PSO_2D_Bin_berth_line.py', wdir='E:/1 2\2\1\1\1_2\1_LW_2\6 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_8_5_standerd_test.xlsx optimization process.
14
15 Start
16     Read basic data
17         V = 8
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 = 0.23367809387736682
29     r2 = 0.23367809387736682
30 Begin iteration:
31
32 iter = 0
33     cord_individual_obj[individual_i, :] = [ 0. 5. 48. 53.]
34     cord_individual_obj[individual_i, :] = [ 1. 4. 59. 63.]
35     cord_individual_obj[individual_i, :] = [ 2. 5. 46. 51.]
36     cord_individual_obj[individual_i, :] = [ 3. 4. 14. 18.]
37     cord_individual_obj[individual_i, :] = [ 4. 4. 24. 28.]
38     cord_individual_obj[individual_i, :] = [ 5. 4. 25. 29.]
39     cord_individual_obj[individual_i, :] = [ 6. 5. 66. 71.]
40     cord_individual_obj[individual_i, :] = [ 7. 6. 21. 27.]
41     cord_individual_obj[individual_i, :] = [ 8. 5. 25. 30.]
42     cord_individual_obj[individual_i, :] = [ 9. 4. 8. 12.]
43     cord_individual_obj[individual_i, :] = [10. 5. 58. 63.]
44     cord_individual_obj[individual_i, :] = [11. 4. 7. 11.]
45     cord_individual_obj[individual_i, :] = [12. 3. 70. 73.]
46     cord_individual_obj[individual_i, :] = [13. 4. 24. 28.]
47     cord_individual_obj[individual_i, :] = [14. 5. 26. 31.]
48     cord_individual_obj[individual_i, :] = [15. 7. 48. 55.]
49     cord_individual_obj[individual_i, :] = [16. 4. 25. 29.]
50     cord_individual_obj[individual_i, :] = [17. 4. 34. 38.]
51     cord_individual_obj[individual_i, :] = [18. 3. 7. 10.]
52     cord_individual_obj[individual_i, :] = [19. 3. 34. 37.]
53     cord_individual_obj[individual_i, :] = [20. 4. 24. 28.]
54     cord_individual_obj[individual_i, :] = [21. 4. 10. 14.]
55     cord_individual_obj[individual_i, :] = [22. 3. 35. 38.]
56     cord_individual_obj[individual_i, :] = [23. 5. 46. 51.]
57     cord_individual_obj[individual_i, :] = [24. 3. 84. 87.]
58
59 min(cord_individual_obj[:, 3]) = 10.0
60 historl_G_best_iter[iter, 3] = 10.0
61 Begin iteration:
62
63 iter = 1
64     cord_individual_obj[individual_i, :] = [ 0. 3. 30. 33.]
65     cord_individual_obj[individual_i, :] = [ 1. 3. 31. 34.]
66     cord_individual_obj[individual_i, :] = [ 2. 3. 68. 71.]
67     cord_individual_obj[individual_i, :] = [ 3. 4. 32. 36.]
68     cord_individual_obj[individual_i, :] = [ 4. 3. 32. 35.]
69     cord_individual_obj[individual_i, :] = [ 5. 5. 32. 37.]
70     cord_individual_obj[individual_i, :] = [ 6. 3. 78. 81.]
71     cord_individual_obj[individual_i, :] = [ 7. 2. 24. 26.]
72     cord_individual_obj[individual_i, :] = [ 8. 5. 32. 37.]
73     cord_individual_obj[individual_i, :] = [ 9. 4. 70. 74.]
74     cord_individual_obj[individual_i, :] = [10. 4. 19. 23.]
75     cord_individual_obj[individual_i, :] = [11. 3. 31. 34.]
76     cord_individual_obj[individual_i, :] = [12. 5. 23. 28.]
77     cord_individual_obj[individual_i, :] = [13. 5. 20. 25.]
78     cord_individual_obj[individual_i, :] = [14. 5. 17. 22.]
79     cord_individual_obj[individual_i, :] = [15. 4. 20. 24.]

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80 cord_individual_obj[indivial_i,:] = [16. 5. 29. 34.]
81 cord_individual_obj[indivial_i,:] = [17. 4. 37. 41.]
82 cord_individual_obj[indivial_i,:] = [18. 3. 8. 11.]
83 cord_individual_obj[indivial_i,:] = [19. 3. 48. 51.]
84 cord_individual_obj[indivial_i,:] = [20. 5. 31. 36.]
85 cord_individual_obj[indivial_i,:] = [21. 5. 41. 46.]
86 cord_individual_obj[indivial_i,:] = [22. 4. 60. 64.]
87 cord_individual_obj[indivial_i,:] = [23. 3. 51. 54.]
88 cord_individual_obj[indivial_i,:] = [24. 3. 7. 10.]
89
90 min(cord_individual_obj[:,3]) = 10.0
91 historl_G_best_iter[iter,3] = 10.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 4. 54. 58.]
96 cord_individual_obj[indivial_i,:] = [ 1. 4. 34. 38.]
97 cord_individual_obj[indivial_i,:] = [ 2. 3. 36. 39.]
98 cord_individual_obj[indivial_i,:] = [ 3. 4. 18. 22.]
99 cord_individual_obj[indivial_i,:] = [ 4. 3. 31. 34.]
100 cord_individual_obj[indivial_i,:] = [ 5. 5. 20. 25.]
101 cord_individual_obj[indivial_i,:] = [ 6. 3. 7. 10.]
102 cord_individual_obj[indivial_i,:] = [ 7. 4. 31. 35.]
103 cord_individual_obj[indivial_i,:] = [ 8. 5. 32. 37.]
104 cord_individual_obj[indivial_i,:] = [ 9. 4. 24. 28.]
105 cord_individual_obj[indivial_i,:] = [10. 3. 10. 13.]
106 cord_individual_obj[indivial_i,:] = [11. 3. 32. 35.]
107 cord_individual_obj[indivial_i,:] = [12. 5. 23. 28.]
108 cord_individual_obj[indivial_i,:] = [13. 3. 57. 60.]
109 cord_individual_obj[indivial_i,:] = [14. 3. 68. 71.]
110 cord_individual_obj[indivial_i,:] = [15. 5. 24. 29.]
111 cord_individual_obj[indivial_i,:] = [16. 4. 23. 27.]
112 cord_individual_obj[indivial_i,:] = [17. 5. 7. 12.]
113 cord_individual_obj[indivial_i,:] = [18. 4. 8. 12.]
114 cord_individual_obj[indivial_i,:] = [19. 4. 83. 87.]
115 cord_individual_obj[indivial_i,:] = [20. 5. 12. 17.]
116 cord_individual_obj[indivial_i,:] = [21. 6. 62. 68.]
117 cord_individual_obj[indivial_i,:] = [22. 3. 81. 84.]
118 cord_individual_obj[indivial_i,:] = [23. 3. 19. 22.]
119 cord_individual_obj[indivial_i,:] = [24. 5. 30. 35.]
120
121 min(cord_individual_obj[:,3]) = 10.0
122 historl_G_best_iter[iter,3] = 10.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 4. 33. 37.]
127 cord_individual_obj[indivial_i,:] = [ 1. 3. 33. 36.]
128 cord_individual_obj[indivial_i,:] = [ 2. 4. 51. 55.]
129 cord_individual_obj[indivial_i,:] = [ 3. 4. 37. 41.]
130 cord_individual_obj[indivial_i,:] = [ 4. 3. 48. 51.]
131 cord_individual_obj[indivial_i,:] = [ 5. 5. 40. 45.]
132 cord_individual_obj[indivial_i,:] = [ 6. 4. 81. 85.]
133 cord_individual_obj[indivial_i,:] = [ 7. 3. 30. 33.]
134 cord_individual_obj[indivial_i,:] = [ 8. 5. 76. 81.]
135 cord_individual_obj[indivial_i,:] = [ 9. 3. 14. 17.]
136 cord_individual_obj[indivial_i,:] = [10. 3. 25. 28.]
137 cord_individual_obj[indivial_i,:] = [11. 3. 33. 36.]
138 cord_individual_obj[indivial_i,:] = [12. 3. 31. 34.]
139 cord_individual_obj[indivial_i,:] = [13. 4. 14. 18.]
140 cord_individual_obj[indivial_i,:] = [14. 5. 35. 40.]
141 cord_individual_obj[indivial_i,:] = [15. 3. 12. 15.]
142 cord_individual_obj[indivial_i,:] = [16. 4. 28. 32.]
143 cord_individual_obj[indivial_i,:] = [17. 4. 19. 23.]
144 cord_individual_obj[indivial_i,:] = [18. 3. 18. 21.]
145 cord_individual_obj[indivial_i,:] = [19. 3. 7. 10.]
146 cord_individual_obj[indivial_i,:] = [20. 5. 11. 16.]
147 cord_individual_obj[indivial_i,:] = [21. 5. 13. 18.]
148 cord_individual_obj[indivial_i,:] = [22. 4. 84. 88.]
149 cord_individual_obj[indivial_i,:] = [23. 4. 33. 37.]
150 cord_individual_obj[indivial_i,:] = [24. 6. 37. 43.]
151
152 min(cord_individual_obj[:,3]) = 10.0
153 historl_G_best_iter[iter,3] = 10.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 3. 88. 91.]
158 cord_individual_obj[indivial_i,:] = [ 1. 4. 11. 15.]
159 cord_individual_obj[indivial_i,:] = [ 2. 6. 21. 27.]
160 cord_individual_obj[indivial_i,:] = [ 3. 5. 24. 29.]
161 cord_individual_obj[indivial_i,:] = [ 4. 3. 12. 15.]
162 cord_individual_obj[indivial_i,:] = [ 5. 4. 63. 67.]
163 cord_individual_obj[indivial_i,:] = [ 6. 4. 80. 84.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 4. 38. 42.]
165 cord_individual_obj[indivial_i,:] = [ 8. 4. 47. 51.]
166 cord_individual_obj[indivial_i,:] = [ 9. 4. 25. 29.]
167 cord_individual_obj[indivial_i,:] = [10. 4. 31. 35.]
168 cord_individual_obj[indivial_i,:] = [11. 4. 10. 14.]
169 cord_individual_obj[indivial_i,:] = [12. 6. 24. 30.]
170 cord_individual_obj[indivial_i,:] = [13. 3. 52. 55.]
171 cord_individual_obj[indivial_i,:] = [14. 4. 9. 13.]
172 cord_individual_obj[indivial_i,:] = [15. 4. 67. 71.]
173 cord_individual_obj[indivial_i,:] = [16. 5. 65. 70.]
174 cord_individual_obj[indivial_i,:] = [17. 4. 7. 11.]
175 cord_individual_obj[indivial_i,:] = [18. 6. 10. 16.]
176 cord_individual_obj[indivial_i,:] = [19. 5. 80. 85.]
177 cord_individual_obj[indivial_i,:] = [20. 3. 9. 12.]
178 cord_individual_obj[indivial_i,:] = [21. 4. 70. 74.]
179 cord_individual_obj[indivial_i,:] = [22. 3. 7. 10.]
180 cord_individual_obj[indivial_i,:] = [23. 5. 33. 38.]
181 cord_individual_obj[indivial_i,:] = [24. 4. 17. 21.]
182
183 min(cord_individual_obj[:,3]) = 10.0
184 historl_G_best_iter[iter,3] = 10.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 3. 7. 10.]
189 cord_individual_obj[indivial_i,:] = [ 1. 4. 32. 36.]
190 cord_individual_obj[indivial_i,:] = [ 2. 3. 47. 50.]
191 cord_individual_obj[indivial_i,:] = [ 3. 4. 9. 13.]
192 cord_individual_obj[indivial_i,:] = [ 4. 3. 33. 36.]
193 cord_individual_obj[indivial_i,:] = [ 5. 5. 20. 25.]
194 cord_individual_obj[indivial_i,:] = [ 6. 4. 117. 121.]
195 cord_individual_obj[indivial_i,:] = [ 7. 3. 29. 32.]
196 cord_individual_obj[indivial_i,:] = [ 8. 5. 65. 70.]
197 cord_individual_obj[indivial_i,:] = [ 9. 4. 24. 28.]
198 cord_individual_obj[indivial_i,:] = [10. 3. 10. 13.]
199 cord_individual_obj[indivial_i,:] = [11. 4. 21. 25.]
200 cord_individual_obj[indivial_i,:] = [12. 5. 23. 28.]
201 cord_individual_obj[indivial_i,:] = [13. 5. 21. 26.]
202 cord_individual_obj[indivial_i,:] = [14. 5. 48. 53.]
203 cord_individual_obj[indivial_i,:] = [15. 5. 22. 27.]
204 cord_individual_obj[indivial_i,:] = [16. 4. 23. 27.]
205 cord_individual_obj[indivial_i,:] = [17. 5. 8. 13.]
206 cord_individual_obj[indivial_i,:] = [18. 4. 8. 12.]
207 cord_individual_obj[indivial_i,:] = [19. 4. 16. 20.]
208 cord_individual_obj[indivial_i,:] = [20. 5. 36. 41.]
209 cord_individual_obj[indivial_i,:] = [21. 4. 23. 27.]
210 cord_individual_obj[indivial_i,:] = [22. 5. 84. 89.]
211 cord_individual_obj[indivial_i,:] = [23. 4. 21. 25.]
212 cord_individual_obj[indivial_i,:] = [24. 5. 19. 24.]
213
214 min(cord_individual_obj[:,3]) = 10.0
215 historl_G_best_iter[iter,3] = 10.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 3. 46. 49.]
220 cord_individual_obj[indivial_i,:] = [ 1. 3. 33. 36.]
221 cord_individual_obj[indivial_i,:] = [ 2. 4. 40. 44.]
222 cord_individual_obj[indivial_i,:] = [ 3. 5. 38. 43.]
223 cord_individual_obj[indivial_i,:] = [ 4. 3. 53. 56.]
224 cord_individual_obj[indivial_i,:] = [ 5. 4. 30. 34.]
225 cord_individual_obj[indivial_i,:] = [ 6. 3. 7. 10.]
226 cord_individual_obj[indivial_i,:] = [ 7. 3. 42. 45.]
227 cord_individual_obj[indivial_i,:] = [ 8. 5. 33. 38.]
228 cord_individual_obj[indivial_i,:] = [ 9. 3. 23. 26.]
229 cord_individual_obj[indivial_i,:] = [10. 4. 31. 35.]
230 cord_individual_obj[indivial_i,:] = [11. 5. 46. 51.]
231 cord_individual_obj[indivial_i,:] = [12. 5. 22. 27.]
232 cord_individual_obj[indivial_i,:] = [13. 3. 45. 48.]
233 cord_individual_obj[indivial_i,:] = [14. 3. 18. 21.]
234 cord_individual_obj[indivial_i,:] = [15. 3. 31. 34.]
235 cord_individual_obj[indivial_i,:] = [16. 3. 70. 73.]
236 cord_individual_obj[indivial_i,:] = [17. 3. 7. 10.]
237 cord_individual_obj[indivial_i,:] = [18. 4. 8. 12.]
238 cord_individual_obj[indivial_i,:] = [19. 4. 16. 20.]
239 cord_individual_obj[indivial_i,:] = [20. 5. 13. 18.]
240 cord_individual_obj[indivial_i,:] = [21. 5. 23. 28.]
241 cord_individual_obj[indivial_i,:] = [22. 3. 81. 84.]
242 cord_individual_obj[indivial_i,:] = [23. 7. 24. 31.]
243 cord_individual_obj[indivial_i,:] = [24. 3. 13. 16.]
244
245 min(cord_individual_obj[:,3]) = 10.0
246 historl_G_best_iter[iter,3] = 10.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0.  3. 30. 33.]
251 cord_individual_obj[indivial_i, :] = [ 1.  3. 31. 34.]
252 cord_individual_obj[indivial_i, :] = [ 2.  4. 37. 41.]
253 cord_individual_obj[indivial_i, :] = [ 3.  4. 32. 36.]
254 cord_individual_obj[indivial_i, :] = [ 4.  2. 24. 26.]
255 cord_individual_obj[indivial_i, :] = [ 5.  5. 14. 19.]
256 cord_individual_obj[indivial_i, :] = [ 6.  4. 81. 85.]
257 cord_individual_obj[indivial_i, :] = [ 7.  3. 24. 27.]
258 cord_individual_obj[indivial_i, :] = [ 8.  5. 24. 29.]
259 cord_individual_obj[indivial_i, :] = [ 9.  4. 61. 65.]
260 cord_individual_obj[indivial_i, :] = [10.  4. 31. 35.]
261 cord_individual_obj[indivial_i, :] = [11.  4. 33. 37.]
262 cord_individual_obj[indivial_i, :] = [12.  3. 31. 34.]
263 cord_individual_obj[indivial_i, :] = [13.  3. 36. 39.]
264 cord_individual_obj[indivial_i, :] = [14.  3. 35. 38.]
265 cord_individual_obj[indivial_i, :] = [15.  5. 13. 18.]
266 cord_individual_obj[indivial_i, :] = [16.  3. 72. 75.]
267 cord_individual_obj[indivial_i, :] = [17.  3. 19. 22.]
268 cord_individual_obj[indivial_i, :] = [18.  3. 31. 34.]
269 cord_individual_obj[indivial_i, :] = [19.  4. 49. 53.]
270 cord_individual_obj[indivial_i, :] = [20.  4. 12. 16.]
271 cord_individual_obj[indivial_i, :] = [21.  3. 30. 33.]
272 cord_individual_obj[indivial_i, :] = [22.  3. 7. 10.]
273 cord_individual_obj[indivial_i, :] = [23.  5. 30. 35.]
274 cord_individual_obj[indivial_i, :] = [24.  5. 33. 38.]
275

276 min(cord_individual_obj[:, 3]) = 10.0
277 historl_G_best_iter[iter, 3] = 10.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0.  3. 46. 49.]
282 cord_individual_obj[indivial_i, :] = [ 1.  3. 31. 34.]
283 cord_individual_obj[indivial_i, :] = [ 2.  3. 57. 60.]
284 cord_individual_obj[indivial_i, :] = [ 3.  4. 37. 41.]
285 cord_individual_obj[indivial_i, :] = [ 4.  3. 31. 34.]
286 cord_individual_obj[indivial_i, :] = [ 5.  5. 22. 27.]
287 cord_individual_obj[indivial_i, :] = [ 6.  3. 7. 10.]
288 cord_individual_obj[indivial_i, :] = [ 7.  3. 19. 22.]
289 cord_individual_obj[indivial_i, :] = [ 8.  4. 14. 18.]
290 cord_individual_obj[indivial_i, :] = [ 9.  3. 24. 27.]
291 cord_individual_obj[indivial_i, :] = [10.  4. 19. 23.]
292 cord_individual_obj[indivial_i, :] = [11.  3. 32. 35.]
293 cord_individual_obj[indivial_i, :] = [12.  5. 47. 52.]
294 cord_individual_obj[indivial_i, :] = [13.  5. 21. 26.]
295 cord_individual_obj[indivial_i, :] = [14.  5. 48. 53.]
296 cord_individual_obj[indivial_i, :] = [15.  5. 25. 30.]
297 cord_individual_obj[indivial_i, :] = [16.  6. 32. 38.]
298 cord_individual_obj[indivial_i, :] = [17.  5. 19. 24.]
299 cord_individual_obj[indivial_i, :] = [18.  4. 9. 13.]
300 cord_individual_obj[indivial_i, :] = [19.  5. 80. 85.]
301 cord_individual_obj[indivial_i, :] = [20.  5. 12. 17.]
302 cord_individual_obj[indivial_i, :] = [21.  4. 60. 64.]
303 cord_individual_obj[indivial_i, :] = [22.  5. 84. 89.]
304 cord_individual_obj[indivial_i, :] = [23.  7. 14. 21.]
305 cord_individual_obj[indivial_i, :] = [24.  6. 33. 39.]
306

307 min(cord_individual_obj[:, 3]) = 10.0
308 historl_G_best_iter[iter, 3] = 10.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0.  3. 68. 71.]
313 cord_individual_obj[indivial_i, :] = [ 1.  4. 22. 26.]
314 cord_individual_obj[indivial_i, :] = [ 2.  4. 10. 14.]
315 cord_individual_obj[indivial_i, :] = [ 3.  5. 30. 35.]
316 cord_individual_obj[indivial_i, :] = [ 4.  3. 33. 36.]
317 cord_individual_obj[indivial_i, :] = [ 5.  4. 50. 54.]
318 cord_individual_obj[indivial_i, :] = [ 6.  4. 81. 85.]
319 cord_individual_obj[indivial_i, :] = [ 7.  4. 8. 12.]
320 cord_individual_obj[indivial_i, :] = [ 8.  5. 21. 26.]
321 cord_individual_obj[indivial_i, :] = [ 9.  4. 24. 28.]
322 cord_individual_obj[indivial_i, :] = [10.  4. 31. 35.]
323 cord_individual_obj[indivial_i, :] = [11.  5. 9. 14.]
324 cord_individual_obj[indivial_i, :] = [12.  5. 15. 20.]
325 cord_individual_obj[indivial_i, :] = [13.  4. 53. 57.]
326 cord_individual_obj[indivial_i, :] = [14.  3. 93. 96.]
327 cord_individual_obj[indivial_i, :] = [15.  5. 22. 27.]
328 cord_individual_obj[indivial_i, :] = [16.  5. 77. 82.]
329 cord_individual_obj[indivial_i, :] = [17.  5. 50. 55.]
330 cord_individual_obj[indivial_i, :] = [18.  4. 10. 14.]
331 cord_individual_obj[indivial_i, :] = [19.  4. 140. 144.]

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332 cord_individual_obj[indivial_i,:] = [20. 4. 17. 21.]
333 cord_individual_obj[indivial_i,:] = [21. 4. 43. 47.]
334 cord_individual_obj[indivial_i,:] = [22. 3. 7. 10.]
335 cord_individual_obj[indivial_i,:] = [23. 4. 33. 37.]
336 cord_individual_obj[indivial_i,:] = [24. 5. 26. 31.]
337
338 min(cord_individual_obj[:,3]) = 10.0
339 histol_G_best_iter[iter,3] = 10.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i,:] = [ 0. 4. 31. 35.]
344 cord_individual_obj[indivial_i,:] = [ 1. 3. 31. 34.]
345 cord_individual_obj[indivial_i,:] = [ 2. 4. 31. 35.]
346 cord_individual_obj[indivial_i,:] = [ 3. 3. 45. 48.]
347 cord_individual_obj[indivial_i,:] = [ 4. 3. 14. 17.]
348 cord_individual_obj[indivial_i,:] = [ 5. 5. 31. 36.]
349 cord_individual_obj[indivial_i,:] = [ 6. 4. 80. 84.]
350 cord_individual_obj[indivial_i,:] = [ 7. 3. 30. 33.]
351 cord_individual_obj[indivial_i,:] = [ 8. 4. 14. 18.]
352 cord_individual_obj[indivial_i,:] = [ 9. 3. 14. 17.]
353 cord_individual_obj[indivial_i,:] = [10. 4. 67. 71.]
354 cord_individual_obj[indivial_i,:] = [11. 3. 31. 34.]
355 cord_individual_obj[indivial_i,:] = [12. 4. 19. 23.]
356 cord_individual_obj[indivial_i,:] = [13. 3. 14. 17.]
357 cord_individual_obj[indivial_i,:] = [14. 6. 24. 30.]
358 cord_individual_obj[indivial_i,:] = [15. 4. 32. 36.]
359 cord_individual_obj[indivial_i,:] = [16. 6. 33. 39.]
360 cord_individual_obj[indivial_i,:] = [17. 5. 20. 25.]
361 cord_individual_obj[indivial_i,:] = [18. 3. 18. 21.]
362 cord_individual_obj[indivial_i,:] = [19. 3. 7. 10.]
363 cord_individual_obj[indivial_i,:] = [20. 4. 13. 17.]
364 cord_individual_obj[indivial_i,:] = [21. 4. 30. 34.]
365 cord_individual_obj[indivial_i,:] = [22. 5. 84. 89.]
366 cord_individual_obj[indivial_i,:] = [23. 4. 32. 36.]
367 cord_individual_obj[indivial_i,:] = [24. 6. 25. 31.]
368
369 min(cord_individual_obj[:,3]) = 10.0
370 histol_G_best_iter[iter,3] = 10.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i,:] = [ 0. 4. 30. 34.]
375 cord_individual_obj[indivial_i,:] = [ 1. 3. 32. 35.]
376 cord_individual_obj[indivial_i,:] = [ 2. 3. 18. 21.]
377 cord_individual_obj[indivial_i,:] = [ 3. 4. 32. 36.]
378 cord_individual_obj[indivial_i,:] = [ 4. 2. 24. 26.]
379 cord_individual_obj[indivial_i,:] = [ 5. 4. 61. 65.]
380 cord_individual_obj[indivial_i,:] = [ 6. 3. 81. 84.]
381 cord_individual_obj[indivial_i,:] = [ 7. 3. 13. 16.]
382 cord_individual_obj[indivial_i,:] = [ 8. 3. 72. 75.]
383 cord_individual_obj[indivial_i,:] = [ 9. 3. 24. 27.]
384 cord_individual_obj[indivial_i,:] = [10. 4. 19. 23.]
385 cord_individual_obj[indivial_i,:] = [11. 3. 33. 36.]
386 cord_individual_obj[indivial_i,:] = [12. 4. 45. 49.]
387 cord_individual_obj[indivial_i,:] = [13. 4. 30. 34.]
388 cord_individual_obj[indivial_i,:] = [14. 3. 30. 33.]
389 cord_individual_obj[indivial_i,:] = [15. 3. 19. 22.]
390 cord_individual_obj[indivial_i,:] = [16. 4. 29. 33.]
391 cord_individual_obj[indivial_i,:] = [17. 4. 23. 27.]
392 cord_individual_obj[indivial_i,:] = [18. 3. 20. 23.]
393 cord_individual_obj[indivial_i,:] = [19. 4. 80. 84.]
394 cord_individual_obj[indivial_i,:] = [20. 5. 13. 18.]
395 cord_individual_obj[indivial_i,:] = [21. 5. 28. 33.]
396 cord_individual_obj[indivial_i,:] = [22. 3. 7. 10.]
397 cord_individual_obj[indivial_i,:] = [23. 5. 32. 37.]
398 cord_individual_obj[indivial_i,:] = [24. 3. 18. 21.]
399
400 min(cord_individual_obj[:,3]) = 10.0
401 histol_G_best_iter[iter,3] = 10.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i,:] = [ 0. 3. 49. 52.]
406 cord_individual_obj[indivial_i,:] = [ 1. 3. 50. 53.]
407 cord_individual_obj[indivial_i,:] = [ 2. 4. 11. 15.]
408 cord_individual_obj[indivial_i,:] = [ 3. 5. 30. 35.]
409 cord_individual_obj[indivial_i,:] = [ 4. 3. 10. 13.]
410 cord_individual_obj[indivial_i,:] = [ 5. 4. 43. 47.]
411 cord_individual_obj[indivial_i,:] = [ 6. 3. 7. 10.]
412 cord_individual_obj[indivial_i,:] = [ 7. 4. 8. 12.]
413 cord_individual_obj[indivial_i,:] = [ 8. 4. 31. 35.]
414 cord_individual_obj[indivial_i,:] = [ 9. 4. 18. 22.]
415 cord_individual_obj[indivial_i,:] = [10. 3. 10. 13.]

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416 cord_individual_obj[indivial_i,:] = [11. 4. 10. 14.]
417 cord_individual_obj[indivial_i,:] = [12. 6. 20. 26.]
418 cord_individual_obj[indivial_i,:] = [13. 4. 49. 53.]
419 cord_individual_obj[indivial_i,:] = [14. 5. 35. 40.]
420 cord_individual_obj[indivial_i,:] = [15. 4. 27. 31.]
421 cord_individual_obj[indivial_i,:] = [16. 5. 73. 78.]
422 cord_individual_obj[indivial_i,:] = [17. 3. 18. 21.]
423 cord_individual_obj[indivial_i,:] = [18. 6. 10. 16.]
424 cord_individual_obj[indivial_i,:] = [19. 6. 35. 41.]
425 cord_individual_obj[indivial_i,:] = [20. 4. 54. 58.]
426 cord_individual_obj[indivial_i,:] = [21. 4. 15. 19.]
427 cord_individual_obj[indivial_i,:] = [22. 2. 24. 26.]
428 cord_individual_obj[indivial_i,:] = [23. 5. 33. 38.]
429 cord_individual_obj[indivial_i,:] = [24. 3. 45. 48.]
430
431 min(cord_individual_obj[:,3]) = 10.0
432 histol_G_best_iter[iter,3] = 10.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 5. 19. 24.]
437 cord_individual_obj[indivial_i,:] = [ 1. 4. 34. 38.]
438 cord_individual_obj[indivial_i,:] = [ 2. 5. 33. 38.]
439 cord_individual_obj[indivial_i,:] = [ 3. 5. 40. 45.]
440 cord_individual_obj[indivial_i,:] = [ 4. 3. 33. 36.]
441 cord_individual_obj[indivial_i,:] = [ 5. 4. 24. 28.]
442 cord_individual_obj[indivial_i,:] = [ 6. 4. 85. 89.]
443 cord_individual_obj[indivial_i,:] = [ 7. 3. 29. 32.]
444 cord_individual_obj[indivial_i,:] = [ 8. 5. 32. 37.]
445 cord_individual_obj[indivial_i,:] = [ 9. 4. 9. 13.]
446 cord_individual_obj[indivial_i,:] = [10. 3. 10. 13.]
447 cord_individual_obj[indivial_i,:] = [11. 4. 33. 37.]
448 cord_individual_obj[indivial_i,:] = [12. 5. 33. 38.]
449 cord_individual_obj[indivial_i,:] = [13. 4. 40. 44.]
450 cord_individual_obj[indivial_i,:] = [14. 6. 17. 23.]
451 cord_individual_obj[indivial_i,:] = [15. 4. 32. 36.]
452 cord_individual_obj[indivial_i,:] = [16. 3. 7. 10.]
453 cord_individual_obj[indivial_i,:] = [17. 5. 30. 35.]
454 cord_individual_obj[indivial_i,:] = [18. 4. 8. 12.]
455 cord_individual_obj[indivial_i,:] = [19. 4. 8. 12.]
456 cord_individual_obj[indivial_i,:] = [20. 5. 12. 17.]
457 cord_individual_obj[indivial_i,:] = [21. 5. 23. 28.]
458 cord_individual_obj[indivial_i,:] = [22. 3. 81. 84.]
459 cord_individual_obj[indivial_i,:] = [23. 6. 51. 57.]
460 cord_individual_obj[indivial_i,:] = [24. 5. 19. 24.]
461
462 min(cord_individual_obj[:,3]) = 10.0
463 histol_G_best_iter[iter,3] = 10.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 5. 68. 73.]
468 cord_individual_obj[indivial_i,:] = [ 1. 4. 34. 38.]
469 cord_individual_obj[indivial_i,:] = [ 2. 3. 47. 50.]
470 cord_individual_obj[indivial_i,:] = [ 3. 6. 34. 40.]
471 cord_individual_obj[indivial_i,:] = [ 4. 3. 33. 36.]
472 cord_individual_obj[indivial_i,:] = [ 5. 5. 42. 47.]
473 cord_individual_obj[indivial_i,:] = [ 6. 3. 7. 10.]
474 cord_individual_obj[indivial_i,:] = [ 7. 3. 24. 27.]
475 cord_individual_obj[indivial_i,:] = [ 8. 5. 33. 38.]
476 cord_individual_obj[indivial_i,:] = [ 9. 4. 23. 27.]
477 cord_individual_obj[indivial_i,:] = [10. 3. 10. 13.]
478 cord_individual_obj[indivial_i,:] = [11. 3. 32. 35.]
479 cord_individual_obj[indivial_i,:] = [12. 5. 32. 37.]
480 cord_individual_obj[indivial_i,:] = [13. 3. 31. 34.]
481 cord_individual_obj[indivial_i,:] = [14. 5. 38. 43.]
482 cord_individual_obj[indivial_i,:] = [15. 5. 16. 21.]
483 cord_individual_obj[indivial_i,:] = [16. 6. 32. 38.]
484 cord_individual_obj[indivial_i,:] = [17. 6. 25. 31.]
485 cord_individual_obj[indivial_i,:] = [18. 4. 9. 13.]
486 cord_individual_obj[indivial_i,:] = [19. 5. 84. 89.]
487 cord_individual_obj[indivial_i,:] = [20. 5. 18. 23.]
488 cord_individual_obj[indivial_i,:] = [21. 7. 25. 32.]
489 cord_individual_obj[indivial_i,:] = [22. 4. 38. 42.]
490 cord_individual_obj[indivial_i,:] = [23. 6. 13. 19.]
491 cord_individual_obj[indivial_i,:] = [24. 3. 19. 22.]
492
493 min(cord_individual_obj[:,3]) = 10.0
494 histol_G_best_iter[iter,3] = 10.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 5. 11. 16.]
499 cord_individual_obj[indivial_i,:] = [ 1. 3. 57. 60.]

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500 cord_individual_obj[indivial_i, :] = [ 2. 3. 23. 26.]
501 cord_individual_obj[indivial_i, :] = [ 3. 4. 9. 13.]
502 cord_individual_obj[indivial_i, :] = [ 4. 4. 61. 65.]
503 cord_individual_obj[indivial_i, :] = [ 5. 5. 43. 48.]
504 cord_individual_obj[indivial_i, :] = [ 6. 4. 85. 89.]
505 cord_individual_obj[indivial_i, :] = [ 7. 4. 19. 23.]
506 cord_individual_obj[indivial_i, :] = [ 8. 5. 9. 14.]
507 cord_individual_obj[indivial_i, :] = [ 9. 4. 57. 61.]
508 cord_individual_obj[indivial_i, :] = [10. 3. 10. 13.]
509 cord_individual_obj[indivial_i, :] = [11. 4. 9. 13.]
510 cord_individual_obj[indivial_i, :] = [12. 4. 75. 79.]
511 cord_individual_obj[indivial_i, :] = [13. 4. 54. 58.]
512 cord_individual_obj[indivial_i, :] = [14. 4. 22. 26.]
513 cord_individual_obj[indivial_i, :] = [15. 4. 20. 24.]
514 cord_individual_obj[indivial_i, :] = [16. 4. 6. 10.]
515 cord_individual_obj[indivial_i, :] = [17. 4. 36. 40.]
516 cord_individual_obj[indivial_i, :] = [18. 3. 40. 43.]
517 cord_individual_obj[indivial_i, :] = [19. 3. 7. 10.]
518 cord_individual_obj[indivial_i, :] = [20. 3. 6. 9.]
519 cord_individual_obj[indivial_i, :] = [21. 4. 43. 47.]
520 cord_individual_obj[indivial_i, :] = [22. 4. 30. 34.]
521 cord_individual_obj[indivial_i, :] = [23. 5. 37. 42.]
522 cord_individual_obj[indivial_i, :] = [24. 3. 46. 49.]
523
524 min(cord_individual_obj[:, 3]) = 9.0
525 histol_G_best_iter[iter, 3] = 9.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i, :] = [ 0. 4. 8. 12.]
530 cord_individual_obj[indivial_i, :] = [ 1. 3. 32. 35.]
531 cord_individual_obj[indivial_i, :] = [ 2. 4. 53. 57.]
532 cord_individual_obj[indivial_i, :] = [ 3. 4. 9. 13.]
533 cord_individual_obj[indivial_i, :] = [ 4. 3. 37. 40.]
534 cord_individual_obj[indivial_i, :] = [ 5. 4. 29. 33.]
535 cord_individual_obj[indivial_i, :] = [ 6. 3. 6. 9.]
536 cord_individual_obj[indivial_i, :] = [ 7. 3. 6. 9.]
537 cord_individual_obj[indivial_i, :] = [ 8. 6. 20. 26.]
538 cord_individual_obj[indivial_i, :] = [ 9. 6. 12. 18.]
539 cord_individual_obj[indivial_i, :] = [10. 3. 30. 33.]
540 cord_individual_obj[indivial_i, :] = [11. 3. 37. 40.]
541 cord_individual_obj[indivial_i, :] = [12. 3. 14. 17.]
542 cord_individual_obj[indivial_i, :] = [13. 4. 71. 75.]
543 cord_individual_obj[indivial_i, :] = [14. 5. 22. 27.]
544 cord_individual_obj[indivial_i, :] = [15. 3. 42. 45.]
545 cord_individual_obj[indivial_i, :] = [16. 6. 49. 55.]
546 cord_individual_obj[indivial_i, :] = [17. 6. 11. 17.]
547 cord_individual_obj[indivial_i, :] = [18. 4. 20. 24.]
548 cord_individual_obj[indivial_i, :] = [19. 4. 55. 59.]
549 cord_individual_obj[indivial_i, :] = [20. 5. 27. 32.]
550 cord_individual_obj[indivial_i, :] = [21. 5. 42. 47.]
551 cord_individual_obj[indivial_i, :] = [22. 3. 58. 61.]
552 cord_individual_obj[indivial_i, :] = [23. 5. 43. 48.]
553 cord_individual_obj[indivial_i, :] = [24. 5. 19. 24.]
554
555 min(cord_individual_obj[:, 3]) = 9.0
556 histol_G_best_iter[iter, 3] = 9.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i, :] = [ 0. 4. 7. 11.]
561 cord_individual_obj[indivial_i, :] = [ 1. 3. 30. 33.]
562 cord_individual_obj[indivial_i, :] = [ 2. 4. 39. 43.]
563 cord_individual_obj[indivial_i, :] = [ 3. 4. 12. 16.]
564 cord_individual_obj[indivial_i, :] = [ 4. 3. 37. 40.]
565 cord_individual_obj[indivial_i, :] = [ 5. 4. 49. 53.]
566 cord_individual_obj[indivial_i, :] = [ 6. 5. 80. 85.]
567 cord_individual_obj[indivial_i, :] = [ 7. 4. 14. 18.]
568 cord_individual_obj[indivial_i, :] = [ 8. 4. 32. 36.]
569 cord_individual_obj[indivial_i, :] = [ 9. 4. 28. 32.]
570 cord_individual_obj[indivial_i, :] = [10. 4. 10. 14.]
571 cord_individual_obj[indivial_i, :] = [11. 4. 22. 26.]
572 cord_individual_obj[indivial_i, :] = [12. 4. 23. 27.]
573 cord_individual_obj[indivial_i, :] = [13. 3. 6. 9.]
574 cord_individual_obj[indivial_i, :] = [14. 3. 12. 15.]
575 cord_individual_obj[indivial_i, :] = [15. 4. 33. 37.]
576 cord_individual_obj[indivial_i, :] = [16. 4. 10. 14.]
577 cord_individual_obj[indivial_i, :] = [17. 3. 56. 59.]
578 cord_individual_obj[indivial_i, :] = [18. 4. 9. 13.]
579 cord_individual_obj[indivial_i, :] = [19. 4. 106. 110.]
580 cord_individual_obj[indivial_i, :] = [20. 5. 18. 23.]
581 cord_individual_obj[indivial_i, :] = [21. 5. 32. 37.]
582 cord_individual_obj[indivial_i, :] = [22. 5. 51. 56.]
583 cord_individual_obj[indivial_i, :] = [23. 4. 15. 19.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 5. 21. 26.]  
585  
586     min(cord_individual_obj[:, 3]) = 9.0  
587     historl_G_best_iter[iter, 3] = 9.0  
588 Begin iteration:  
589  
590 iter = 18  
591     cord_individual_obj[indivial_i, :] = [ 0. 3. 32. 35.]  
592     cord_individual_obj[indivial_i, :] = [ 1. 4. 32. 36.]  
593     cord_individual_obj[indivial_i, :] = [ 2. 3. 10. 13.]  
594     cord_individual_obj[indivial_i, :] = [ 3. 4. 10. 14.]  
595     cord_individual_obj[indivial_i, :] = [ 4. 3. 37. 40.]  
596     cord_individual_obj[indivial_i, :] = [ 5. 5. 14. 19.]  
597     cord_individual_obj[indivial_i, :] = [ 6. 3. 46. 49.]  
598     cord_individual_obj[indivial_i, :] = [ 7. 4. 34. 38.]  
599     cord_individual_obj[indivial_i, :] = [ 8. 6. 33. 39.]  
600     cord_individual_obj[indivial_i, :] = [ 9. 4. 36. 40.]  
601     cord_individual_obj[indivial_i, :] = [10. 3. 11. 14.]  
602     cord_individual_obj[indivial_i, :] = [11. 4. 40. 44.]  
603     cord_individual_obj[indivial_i, :] = [12. 5. 33. 38.]  
604     cord_individual_obj[indivial_i, :] = [13. 4. 35. 39.]  
605     cord_individual_obj[indivial_i, :] = [14. 4. 9. 13.]  
606     cord_individual_obj[indivial_i, :] = [15. 6. 15. 21.]  
607     cord_individual_obj[indivial_i, :] = [16. 4. 27. 31.]  
608     cord_individual_obj[indivial_i, :] = [17. 4. 10. 14.]  
609     cord_individual_obj[indivial_i, :] = [18. 4. 13. 17.]  
610     cord_individual_obj[indivial_i, :] = [19. 3. 6. 9.]  
611     cord_individual_obj[indivial_i, :] = [20. 6. 20. 26.]  
612     cord_individual_obj[indivial_i, :] = [21. 6. 20. 26.]  
613     cord_individual_obj[indivial_i, :] = [22. 4. 81. 85.]  
614     cord_individual_obj[indivial_i, :] = [23. 6. 46. 52.]  
615     cord_individual_obj[indivial_i, :] = [24. 4. 10. 14.]  
616  
617     min(cord_individual_obj[:, 3]) = 9.0  
618     historl_G_best_iter[iter, 3] = 9.0  
619 Begin iteration:  
620  
621 iter = 19  
622     cord_individual_obj[indivial_i, :] = [ 0. 5. 14. 19.]  
623     cord_individual_obj[indivial_i, :] = [ 1. 4. 31. 35.]  
624     cord_individual_obj[indivial_i, :] = [ 2. 3. 93. 96.]  
625     cord_individual_obj[indivial_i, :] = [ 3. 5. 21. 26.]  
626     cord_individual_obj[indivial_i, :] = [ 4. 3. 30. 33.]  
627     cord_individual_obj[indivial_i, :] = [ 5. 5. 16. 21.]  
628     cord_individual_obj[indivial_i, :] = [ 6. 4. 18. 22.]  
629     cord_individual_obj[indivial_i, :] = [ 7. 6. 48. 54.]  
630     cord_individual_obj[indivial_i, :] = [ 8. 4. 33. 37.]  
631     cord_individual_obj[indivial_i, :] = [ 9. 4. 31. 35.]  
632     cord_individual_obj[indivial_i, :] = [10. 4. 33. 37.]  
633     cord_individual_obj[indivial_i, :] = [11. 4. 13. 17.]  
634     cord_individual_obj[indivial_i, :] = [12. 4. 20. 24.]  
635     cord_individual_obj[indivial_i, :] = [13. 5. 32. 37.]  
636     cord_individual_obj[indivial_i, :] = [14. 4. 30. 34.]  
637     cord_individual_obj[indivial_i, :] = [15. 5. 34. 39.]  
638     cord_individual_obj[indivial_i, :] = [16. 3. 31. 34.]  
639     cord_individual_obj[indivial_i, :] = [17. 4. 18. 22.]  
640     cord_individual_obj[indivial_i, :] = [18. 5. 13. 18.]  
641     cord_individual_obj[indivial_i, :] = [19. 5. 16. 21.]  
642     cord_individual_obj[indivial_i, :] = [20. 4. 31. 35.]  
643     cord_individual_obj[indivial_i, :] = [21. 4. 34. 38.]  
644     cord_individual_obj[indivial_i, :] = [22. 3. 6. 9.]  
645     cord_individual_obj[indivial_i, :] = [23. 6. 38. 44.]  
646     cord_individual_obj[indivial_i, :] = [24. 4. 33. 37.]  
647  
648     min(cord_individual_obj[:, 3]) = 9.0  
649     historl_G_best_iter[iter, 3] = 9.0  
650 Begin iteration:  
651  
652 iter = 20  
653     cord_individual_obj[indivial_i, :] = [ 0. 5. 21. 26.]  
654     cord_individual_obj[indivial_i, :] = [ 1. 4. 32. 36.]  
655     cord_individual_obj[indivial_i, :] = [ 2. 3. 6. 9.]  
656     cord_individual_obj[indivial_i, :] = [ 3. 5. 12. 17.]  
657     cord_individual_obj[indivial_i, :] = [ 4. 3. 30. 33.]  
658     cord_individual_obj[indivial_i, :] = [ 5. 5. 34. 39.]  
659     cord_individual_obj[indivial_i, :] = [ 6. 3. 50. 53.]  
660     cord_individual_obj[indivial_i, :] = [ 7. 6. 56. 62.]  
661     cord_individual_obj[indivial_i, :] = [ 8. 3. 25. 28.]  
662     cord_individual_obj[indivial_i, :] = [ 9. 3. 42. 45.]  
663     cord_individual_obj[indivial_i, :] = [10. 3. 75. 78.]  
664     cord_individual_obj[indivial_i, :] = [11. 4. 15. 19.]  
665     cord_individual_obj[indivial_i, :] = [12. 4. 31. 35.]  
666     cord_individual_obj[indivial_i, :] = [13. 4. 38. 42.]  
667     cord_individual_obj[indivial_i, :] = [14. 6. 47. 53.]
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668 cord_individual_obj[indivial_i, :] = [15. 4. 31. 35.]
669 cord_individual_obj[indivial_i, :] = [16. 3. 31. 34.]
670 cord_individual_obj[indivial_i, :] = [17. 6. 20. 26.]
671 cord_individual_obj[indivial_i, :] = [18. 4. 15. 19.]
672 cord_individual_obj[indivial_i, :] = [19. 6. 20. 26.]
673 cord_individual_obj[indivial_i, :] = [20. 4. 30. 34.]
674 cord_individual_obj[indivial_i, :] = [21. 4. 31. 35.]
675 cord_individual_obj[indivial_i, :] = [22. 5. 81. 86.]
676 cord_individual_obj[indivial_i, :] = [23. 5. 42. 47.]
677 cord_individual_obj[indivial_i, :] = [24. 4. 40. 44.]
678
679 min(cord_individual_obj[:, 3]) = 9.0
680 historl_G_best_iter[iter, 3] = 9.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 94.0
689 Proportion_of_area = 0.08703703703703704
690 BEST_CHROM =
691 berth: [ 9.5 22. 2.5 16. 20.5 2.5 3. 10. ]
692 time: [0. 2. 0. 0. 1. 2. 1.]
693 num_QC: [3. 4. 4. 2. 3. 5. 5. 3.]
694 Objective function values and some other indicators:
695 Obj0 = 3.00          Obj1 = 6.00          Obj0 + Obj1 = 9.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 6.00
698 Total index of q during berthing: 371.00
699 Specific arrangement for each vessel:
700 V_id: 0           li: 9.0           xi: 9.5           bow of i: 5.0           tail of i: 14.0           gama_i0: 0.0           gama_i1: 0.0
701 .0             gama_i1 + 1: 1.0           gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 60.0           work_load_i:
702 .0             work load gap_i: 0
703 V_id: 1           li: 8.0           xi: 22.0           bow of i: 18.0           tail of i: 26.0           gama_i0: 2.0           gama_i1: 3
704 .0             gama_i1 + 1: 4.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 100.0           work
705 .0             work load gap_i: 0
706 V_id: 2           li: 5.0           xi: 2.5           bow of i: 0.0           tail of i: 5.0           gama_i0: 0.0           gama_i1: 0.0
707 .0             gama_i1 + 1: 1.0           gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 80.0           work load_i:
708 .0             work load gap_i: 0
709 V_id: 3           li: 4.0           xi: 16.0           bow of i: 14.0           tail of i: 18.0           gama_i0: 0.0           gama_i1: 2
710 .0             gama_i1 + 1: 3.0           gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 120.0           work
711 .0             work load gap_i: 0
712 V_id: 4           li: 5.0           xi: 20.5           bow of i: 18.0           tail of i: 23.0           gama_i0: 0.0           gama_i1: 1
713 .0             gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 120.0           work
714 .0             work load gap_i: 0
715 V_id: 5           li: 5.0           xi: 2.5           bow of i: 0.0           tail of i: 5.0           gama_i0: 1.0           gama_i1: 1.0
716 .0             gama_i1 + 1: 2.0           gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 60.0           work load_i:
717 .0             work load gap_i: 0
718 V_id: 6           li: 6.0           xi: 3.0           bow of i: 0.0           tail of i: 6.0           gama_i0: 2.0           gama_i1: 3.0
719 .0             gama_i1 + 1: 4.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0           work load_i:
720 .0             work load gap_i: 0
721 V_id: 7           li: 8.0           xi: 10.0           bow of i: 6.0           tail of i: 14.0           gama_i0: 1.0           gama_i1: 2
722 .0             gama_i1 + 1: 3.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 100.0           work
723 .0             work load gap_i: 0
724
725 Algorithm finished and the total CPU time: 224 s
726 End
727
728

```