

unknown

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1 "E:\My_Python_Code\3_Standard\My_Python_Code\My_Python_Code\1_LW_000002\6_0000\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=18456
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\My_Python_Code\1_LW_000002\6_0000\2 python code\01_My_Python_Code', 'E:/1_Standard/3_Standard/1_Standard/1_Standard/_Standard/1_LW_000002/6_0000/2 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/_Standard/1_LW_000002/6_0000/2 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/_Standard/1_LW_000002/6_0000/2 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_4_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 = 0.586462825791752
29     r2 = 0.586462825791752
30 Begin iteration:
31
32 iter = 0
33     cord_individual_obj[individual_i, :] = [ 0.  5. 46. 51.]
34     cord_individual_obj[individual_i, :] = [ 1.  5. 48. 53.]
35     cord_individual_obj[individual_i, :] = [ 2.  5. 59. 64.]
36     cord_individual_obj[individual_i, :] = [ 3.  4. 42. 46.]
37     cord_individual_obj[individual_i, :] = [ 4.  6. 61. 67.]
38     cord_individual_obj[individual_i, :] = [ 5.  3. 34. 37.]
39     cord_individual_obj[individual_i, :] = [ 6.  5. 64. 69.]
40     cord_individual_obj[individual_i, :] = [ 7.  4. 9. 13.]
41     cord_individual_obj[individual_i, :] = [ 8.  6. 24. 30.]
42     cord_individual_obj[individual_i, :] = [ 9.  5. 61. 66.]
43     cord_individual_obj[individual_i, :] = [10.  4. 50. 54.]
44     cord_individual_obj[individual_i, :] = [11.  6. 27. 33.]
45     cord_individual_obj[individual_i, :] = [12.  5. 80. 85.]
46     cord_individual_obj[individual_i, :] = [13.  5. 70. 75.]
47     cord_individual_obj[individual_i, :] = [14.  6. 11. 17.]
48     cord_individual_obj[individual_i, :] = [15.  5. 26. 31.]
49     cord_individual_obj[individual_i, :] = [16.  5. 67. 72.]
50     cord_individual_obj[individual_i, :] = [17.  5. 48. 53.]
51     cord_individual_obj[individual_i, :] = [18.  5. 55. 60.]
52     cord_individual_obj[individual_i, :] = [19.  5. 37. 42.]
53     cord_individual_obj[individual_i, :] = [20.  5. 80. 85.]
54     cord_individual_obj[individual_i, :] = [21.  4. 144. 148.]
55     cord_individual_obj[individual_i, :] = [22.  4. 22. 26.]
56     cord_individual_obj[individual_i, :] = [23.  6. 14. 20.]
57     cord_individual_obj[individual_i, :] = [24.  4. 31. 35.]
58
59 min(cord_individual_obj[:, 3]) = 13.0
60 historl_G_best_iter[iter, 3] = 13.0
61 Begin iteration:
62
63 iter = 1
64     cord_individual_obj[individual_i, :] = [ 0.  5. 73. 78.]
65     cord_individual_obj[individual_i, :] = [ 1.  5. 36. 41.]
66     cord_individual_obj[individual_i, :] = [ 2.  5. 56. 61.]
67     cord_individual_obj[individual_i, :] = [ 3.  5. 33. 38.]
68     cord_individual_obj[individual_i, :] = [ 4.  5. 10. 15.]
69     cord_individual_obj[individual_i, :] = [ 5.  4. 53. 57.]
70     cord_individual_obj[individual_i, :] = [ 6.  5. 41. 46.]
71     cord_individual_obj[individual_i, :] = [ 7.  3. 12. 15.]
72     cord_individual_obj[individual_i, :] = [ 8.  5. 24. 29.]
73     cord_individual_obj[individual_i, :] = [ 9.  6. 80. 86.]
74     cord_individual_obj[individual_i, :] = [10.  6. 30. 36.]
75     cord_individual_obj[individual_i, :] = [11.  5. 27. 32.]
76     cord_individual_obj[individual_i, :] = [12.  4. 73. 77.]
77     cord_individual_obj[individual_i, :] = [13.  4. 27. 31.]
78     cord_individual_obj[individual_i, :] = [14.  4. 59. 63.]
79     cord_individual_obj[individual_i, :] = [15.  6. 49. 55.]

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80 cord_individual_obj[indivial_i,:] = [16. 4. 45. 49.]
81 cord_individual_obj[indivial_i,:] = [17. 6. 10. 16.]
82 cord_individual_obj[indivial_i,:] = [18. 4. 142. 146.]
83 cord_individual_obj[indivial_i,:] = [19. 5. 28. 33.]
84 cord_individual_obj[indivial_i,:] = [20. 5. 51. 56.]
85 cord_individual_obj[indivial_i,:] = [21. 4. 9. 13.]
86 cord_individual_obj[indivial_i,:] = [22. 6. 61. 67.]
87 cord_individual_obj[indivial_i,:] = [23. 6. 86. 92.]
88 cord_individual_obj[indivial_i,:] = [24. 6. 70. 76.]
89
90 min(cord_individual_obj[:,3]) = 13.0
91 historl_G_best_iter[iter, 3] = 13.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 5. 9. 14.]
96 cord_individual_obj[indivial_i,:] = [ 1. 5. 24. 29.]
97 cord_individual_obj[indivial_i,:] = [ 2. 6. 24. 30.]
98 cord_individual_obj[indivial_i,:] = [ 3. 4. 23. 27.]
99 cord_individual_obj[indivial_i,:] = [ 4. 3. 58. 61.]
100 cord_individual_obj[indivial_i,:] = [ 5. 5. 7. 12.]
101 cord_individual_obj[indivial_i,:] = [ 6. 5. 55. 60.]
102 cord_individual_obj[indivial_i,:] = [ 7. 4. 18. 22.]
103 cord_individual_obj[indivial_i,:] = [ 8. 6. 44. 50.]
104 cord_individual_obj[indivial_i,:] = [ 9. 4. 43. 47.]
105 cord_individual_obj[indivial_i,:] = [10. 5. 15. 20.]
106 cord_individual_obj[indivial_i,:] = [11. 5. 58. 63.]
107 cord_individual_obj[indivial_i,:] = [12. 4. 22. 26.]
108 cord_individual_obj[indivial_i,:] = [13. 5. 56. 61.]
109 cord_individual_obj[indivial_i,:] = [14. 4. 57. 61.]
110 cord_individual_obj[indivial_i,:] = [15. 3. 36. 39.]
111 cord_individual_obj[indivial_i,:] = [16. 3. 68. 71.]
112 cord_individual_obj[indivial_i,:] = [17. 5. 7. 12.]
113 cord_individual_obj[indivial_i,:] = [18. 4. 9. 13.]
114 cord_individual_obj[indivial_i,:] = [19. 4. 23. 27.]
115 cord_individual_obj[indivial_i,:] = [20. 4. 13. 17.]
116 cord_individual_obj[indivial_i,:] = [21. 4. 51. 55.]
117 cord_individual_obj[indivial_i,:] = [22. 5. 31. 36.]
118 cord_individual_obj[indivial_i,:] = [23. 6. 25. 31.]
119 cord_individual_obj[indivial_i,:] = [24. 4. 7. 11.]
120
121 min(cord_individual_obj[:,3]) = 11.0
122 historl_G_best_iter[iter, 3] = 11.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 4. 45. 49.]
127 cord_individual_obj[indivial_i,:] = [ 1. 5. 121. 126.]
128 cord_individual_obj[indivial_i,:] = [ 2. 4. 47. 51.]
129 cord_individual_obj[indivial_i,:] = [ 3. 5. 32. 37.]
130 cord_individual_obj[indivial_i,:] = [ 4. 4. 38. 42.]
131 cord_individual_obj[indivial_i,:] = [ 5. 7. 155. 162.]
132 cord_individual_obj[indivial_i,:] = [ 6. 5. 20. 25.]
133 cord_individual_obj[indivial_i,:] = [ 7. 6. 53. 59.]
134 cord_individual_obj[indivial_i,:] = [ 8. 4. 7. 11.]
135 cord_individual_obj[indivial_i,:] = [ 9. 5. 40. 45.]
136 cord_individual_obj[indivial_i,:] = [10. 5. 38. 43.]
137 cord_individual_obj[indivial_i,:] = [11. 4. 47. 51.]
138 cord_individual_obj[indivial_i,:] = [12. 4. 60. 64.]
139 cord_individual_obj[indivial_i,:] = [13. 4. 40. 44.]
140 cord_individual_obj[indivial_i,:] = [14. 5. 52. 57.]
141 cord_individual_obj[indivial_i,:] = [15. 5. 11. 16.]
142 cord_individual_obj[indivial_i,:] = [16. 4. 7. 11.]
143 cord_individual_obj[indivial_i,:] = [17. 5. 38. 43.]
144 cord_individual_obj[indivial_i,:] = [18. 5. 13. 18.]
145 cord_individual_obj[indivial_i,:] = [19. 6. 16. 22.]
146 cord_individual_obj[indivial_i,:] = [20. 8. 33. 41.]
147 cord_individual_obj[indivial_i,:] = [21. 6. 52. 58.]
148 cord_individual_obj[indivial_i,:] = [22. 5. 13. 18.]
149 cord_individual_obj[indivial_i,:] = [23. 5. 118. 123.]
150 cord_individual_obj[indivial_i,:] = [24. 6. 57. 63.]
151
152 min(cord_individual_obj[:,3]) = 11.0
153 historl_G_best_iter[iter, 3] = 11.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 6. 27. 33.]
158 cord_individual_obj[indivial_i,:] = [ 1. 5. 49. 54.]
159 cord_individual_obj[indivial_i,:] = [ 2. 5. 22. 27.]
160 cord_individual_obj[indivial_i,:] = [ 3. 5. 23. 28.]
161 cord_individual_obj[indivial_i,:] = [ 4. 4. 32. 36.]
162 cord_individual_obj[indivial_i,:] = [ 5. 4. 7. 11.]
163 cord_individual_obj[indivial_i,:] = [ 6. 5. 21. 26.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 6. 18. 24.]
165 cord_individual_obj[indivial_i,:] = [ 8. 4. 23. 27.]
166 cord_individual_obj[indivial_i,:] = [ 9. 4. 32. 36.]
167 cord_individual_obj[indivial_i,:] = [10. 4. 62. 66.]
168 cord_individual_obj[indivial_i,:] = [11. 4. 33. 37.]
169 cord_individual_obj[indivial_i,:] = [12. 6. 90. 96.]
170 cord_individual_obj[indivial_i,:] = [13. 3. 34. 37.]
171 cord_individual_obj[indivial_i,:] = [14. 4. 46. 50.]
172 cord_individual_obj[indivial_i,:] = [15. 7. 35. 42.]
173 cord_individual_obj[indivial_i,:] = [16. 5. 24. 29.]
174 cord_individual_obj[indivial_i,:] = [17. 5. 126. 131.]
175 cord_individual_obj[indivial_i,:] = [18. 6. 28. 34.]
176 cord_individual_obj[indivial_i,:] = [19. 5. 38. 43.]
177 cord_individual_obj[indivial_i,:] = [20. 6. 15. 21.]
178 cord_individual_obj[indivial_i,:] = [21. 4. 46. 50.]
179 cord_individual_obj[indivial_i,:] = [22. 4. 28. 32.]
180 cord_individual_obj[indivial_i,:] = [23. 4. 46. 50.]
181 cord_individual_obj[indivial_i,:] = [24. 4. 65. 69.]
182
183 min(cord_individual_obj[:,3]) = 11.0
184 historl_G_best_iter[iter,3] = 11.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 6. 32. 38.]
189 cord_individual_obj[indivial_i,:] = [ 1. 6. 78. 84.]
190 cord_individual_obj[indivial_i,:] = [ 2. 6. 43. 49.]
191 cord_individual_obj[indivial_i,:] = [ 3. 6. 45. 51.]
192 cord_individual_obj[indivial_i,:] = [ 4. 6. 83. 89.]
193 cord_individual_obj[indivial_i,:] = [ 5. 4. 61. 65.]
194 cord_individual_obj[indivial_i,:] = [ 6. 5. 76. 81.]
195 cord_individual_obj[indivial_i,:] = [ 7. 5. 81. 86.]
196 cord_individual_obj[indivial_i,:] = [ 8. 6. 40. 46.]
197 cord_individual_obj[indivial_i,:] = [ 9. 6. 84. 90.]
198 cord_individual_obj[indivial_i,:] = [10. 5. 15. 20.]
199 cord_individual_obj[indivial_i,:] = [11. 5. 78. 83.]
200 cord_individual_obj[indivial_i,:] = [12. 5. 37. 42.]
201 cord_individual_obj[indivial_i,:] = [13. 7. 75. 82.]
202 cord_individual_obj[indivial_i,:] = [14. 6. 56. 62.]
203 cord_individual_obj[indivial_i,:] = [15. 8. 61. 69.]
204 cord_individual_obj[indivial_i,:] = [16. 5. 61. 66.]
205 cord_individual_obj[indivial_i,:] = [17. 4. 7. 11.]
206 cord_individual_obj[indivial_i,:] = [18. 5. 58. 63.]
207 cord_individual_obj[indivial_i,:] = [19. 7. 42. 49.]
208 cord_individual_obj[indivial_i,:] = [20. 6. 58. 64.]
209 cord_individual_obj[indivial_i,:] = [21. 4. 42. 46.]
210 cord_individual_obj[indivial_i,:] = [22. 5. 41. 46.]
211 cord_individual_obj[indivial_i,:] = [23. 5. 60. 65.]
212 cord_individual_obj[indivial_i,:] = [24. 5. 55. 60.]
213
214 min(cord_individual_obj[:,3]) = 11.0
215 historl_G_best_iter[iter,3] = 11.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 5. 9. 14.]
220 cord_individual_obj[indivial_i,:] = [ 1. 5. 66. 71.]
221 cord_individual_obj[indivial_i,:] = [ 2. 6. 12. 18.]
222 cord_individual_obj[indivial_i,:] = [ 3. 6. 52. 58.]
223 cord_individual_obj[indivial_i,:] = [ 4. 4. 48. 52.]
224 cord_individual_obj[indivial_i,:] = [ 5. 6. 60. 66.]
225 cord_individual_obj[indivial_i,:] = [ 6. 5. 26. 31.]
226 cord_individual_obj[indivial_i,:] = [ 7. 6. 51. 57.]
227 cord_individual_obj[indivial_i,:] = [ 8. 5. 48. 53.]
228 cord_individual_obj[indivial_i,:] = [ 9. 4. 7. 11.]
229 cord_individual_obj[indivial_i,:] = [10. 5. 75. 80.]
230 cord_individual_obj[indivial_i,:] = [11. 4. 67. 71.]
231 cord_individual_obj[indivial_i,:] = [12. 7. 45. 52.]
232 cord_individual_obj[indivial_i,:] = [13. 4. 82. 86.]
233 cord_individual_obj[indivial_i,:] = [14. 5. 9. 14.]
234 cord_individual_obj[indivial_i,:] = [15. 6. 11. 17.]
235 cord_individual_obj[indivial_i,:] = [16. 4. 82. 86.]
236 cord_individual_obj[indivial_i,:] = [17. 5. 90. 95.]
237 cord_individual_obj[indivial_i,:] = [18. 5. 58. 63.]
238 cord_individual_obj[indivial_i,:] = [19. 7. 62. 69.]
239 cord_individual_obj[indivial_i,:] = [20. 8. 145. 153.]
240 cord_individual_obj[indivial_i,:] = [21. 5. 9. 14.]
241 cord_individual_obj[indivial_i,:] = [22. 5. 7. 12.]
242 cord_individual_obj[indivial_i,:] = [23. 5. 10. 15.]
243 cord_individual_obj[indivial_i,:] = [24. 5. 44. 49.]
244
245 min(cord_individual_obj[:,3]) = 11.0
246 historl_G_best_iter[iter,3] = 11.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0.  6. 43. 49.]
251 cord_individual_obj[indivial_i, :] = [ 1.  7. 92. 99.]
252 cord_individual_obj[indivial_i, :] = [ 2.  6. 66. 72.]
253 cord_individual_obj[indivial_i, :] = [ 3.  7. 28. 35.]
254 cord_individual_obj[indivial_i, :] = [ 4.  8. 111. 119.]
255 cord_individual_obj[indivial_i, :] = [ 5.  5. 62. 67.]
256 cord_individual_obj[indivial_i, :] = [ 6.  5. 91. 96.]
257 cord_individual_obj[indivial_i, :] = [ 7.  5. 60. 65.]
258 cord_individual_obj[indivial_i, :] = [ 8.  4. 86. 90.]
259 cord_individual_obj[indivial_i, :] = [ 9.  6. 84. 90.]
260 cord_individual_obj[indivial_i, :] = [10.  5. 59. 64.]
261 cord_individual_obj[indivial_i, :] = [11.  5. 62. 67.]
262 cord_individual_obj[indivial_i, :] = [12.  6. 31. 37.]
263 cord_individual_obj[indivial_i, :] = [13.  6. 49. 55.]
264 cord_individual_obj[indivial_i, :] = [14.  6. 90. 96.]
265 cord_individual_obj[indivial_i, :] = [15.  5. 75. 80.]
266 cord_individual_obj[indivial_i, :] = [16.  6. 43. 49.]
267 cord_individual_obj[indivial_i, :] = [17.  6. 92. 98.]
268 cord_individual_obj[indivial_i, :] = [18.  5. 45. 50.]
269 cord_individual_obj[indivial_i, :] = [19.  6. 67. 73.]
270 cord_individual_obj[indivial_i, :] = [20.  4. 7. 11.]
271 cord_individual_obj[indivial_i, :] = [21.  4. 42. 46.]
272 cord_individual_obj[indivial_i, :] = [22.  5. 69. 74.]
273 cord_individual_obj[indivial_i, :] = [23.  5. 61. 66.]
274 cord_individual_obj[indivial_i, :] = [24.  6. 69. 75.]
275

276 min(cord_individual_obj[:, 3]) = 11.0
277 historl_G_best_iter[iter, 3] = 11.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0.  4. 56. 60.]
282 cord_individual_obj[indivial_i, :] = [ 1.  6. 41. 47.]
283 cord_individual_obj[indivial_i, :] = [ 2.  7. 14. 21.]
284 cord_individual_obj[indivial_i, :] = [ 3.  7. 35. 42.]
285 cord_individual_obj[indivial_i, :] = [ 4.  4. 7. 11.]
286 cord_individual_obj[indivial_i, :] = [ 5.  5. 29. 34.]
287 cord_individual_obj[indivial_i, :] = [ 6.  5. 78. 83.]
288 cord_individual_obj[indivial_i, :] = [ 7.  5. 59. 64.]
289 cord_individual_obj[indivial_i, :] = [ 8.  7. 13. 20.]
290 cord_individual_obj[indivial_i, :] = [ 9.  7. 71. 78.]
291 cord_individual_obj[indivial_i, :] = [10.  7. 18. 25.]
292 cord_individual_obj[indivial_i, :] = [11.  7. 81. 88.]
293 cord_individual_obj[indivial_i, :] = [12.  4. 44. 48.]
294 cord_individual_obj[indivial_i, :] = [13.  6. 62. 68.]
295 cord_individual_obj[indivial_i, :] = [14.  6. 41. 47.]
296 cord_individual_obj[indivial_i, :] = [15.  5. 32. 37.]
297 cord_individual_obj[indivial_i, :] = [16.  4. 87. 91.]
298 cord_individual_obj[indivial_i, :] = [17.  6. 55. 61.]
299 cord_individual_obj[indivial_i, :] = [18.  6. 15. 21.]
300 cord_individual_obj[indivial_i, :] = [19.  9. 28. 37.]
301 cord_individual_obj[indivial_i, :] = [20.  7. 58. 65.]
302 cord_individual_obj[indivial_i, :] = [21.  5. 87. 92.]
303 cord_individual_obj[indivial_i, :] = [22.  6. 10. 16.]
304 cord_individual_obj[indivial_i, :] = [23.  7. 85. 92.]
305 cord_individual_obj[indivial_i, :] = [24.  7. 45. 52.]
306

307 min(cord_individual_obj[:, 3]) = 11.0
308 historl_G_best_iter[iter, 3] = 11.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0.  6. 63. 69.]
313 cord_individual_obj[indivial_i, :] = [ 1.  6. 90. 96.]
314 cord_individual_obj[indivial_i, :] = [ 2.  5. 47. 52.]
315 cord_individual_obj[indivial_i, :] = [ 3.  4. 50. 54.]
316 cord_individual_obj[indivial_i, :] = [ 4.  6. 83. 89.]
317 cord_individual_obj[indivial_i, :] = [ 5.  6. 114. 120.]
318 cord_individual_obj[indivial_i, :] = [ 6.  6. 51. 57.]
319 cord_individual_obj[indivial_i, :] = [ 7.  5. 81. 86.]
320 cord_individual_obj[indivial_i, :] = [ 8.  4. 80. 84.]
321 cord_individual_obj[indivial_i, :] = [ 9.  6. 51. 57.]
322 cord_individual_obj[indivial_i, :] = [10.  5. 49. 54.]
323 cord_individual_obj[indivial_i, :] = [11.  5. 75. 80.]
324 cord_individual_obj[indivial_i, :] = [12.  6. 49. 55.]
325 cord_individual_obj[indivial_i, :] = [13.  5. 69. 74.]
326 cord_individual_obj[indivial_i, :] = [14.  6. 76. 82.]
327 cord_individual_obj[indivial_i, :] = [15.  7. 58. 65.]
328 cord_individual_obj[indivial_i, :] = [16.  5. 76. 81.]
329 cord_individual_obj[indivial_i, :] = [17.  6. 63. 69.]
330 cord_individual_obj[indivial_i, :] = [18.  5. 66. 71.]
331 cord_individual_obj[indivial_i, :] = [19.  5. 71. 76.]

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332 cord_individual_obj[indivial_i, :] = [20. 6. 86. 92.]
333 cord_individual_obj[indivial_i, :] = [21. 4. 7. 11.]
334 cord_individual_obj[indivial_i, :] = [22. 6. 50. 56.]
335 cord_individual_obj[indivial_i, :] = [23. 5. 76. 81.]
336 cord_individual_obj[indivial_i, :] = [24. 5. 52. 57.]
337
338 min(cord_individual_obj[:, 3]) = 11.0
339 histol_G_best_iter[iter, 3] = 11.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i, :] = [ 0. 5. 86. 91.]
344 cord_individual_obj[indivial_i, :] = [ 1. 5. 62. 67.]
345 cord_individual_obj[indivial_i, :] = [ 2. 7. 69. 76.]
346 cord_individual_obj[indivial_i, :] = [ 3. 6. 60. 66.]
347 cord_individual_obj[indivial_i, :] = [ 4. 7. 72. 79.]
348 cord_individual_obj[indivial_i, :] = [ 5. 4. 7. 11.]
349 cord_individual_obj[indivial_i, :] = [ 6. 5. 89. 94.]
350 cord_individual_obj[indivial_i, :] = [ 7. 5. 9. 14.]
351 cord_individual_obj[indivial_i, :] = [ 8. 6. 40. 46.]
352 cord_individual_obj[indivial_i, :] = [ 9. 7. 85. 92.]
353 cord_individual_obj[indivial_i, :] = [10. 5. 63. 68.]
354 cord_individual_obj[indivial_i, :] = [11. 5. 89. 94.]
355 cord_individual_obj[indivial_i, :] = [12. 5. 45. 50.]
356 cord_individual_obj[indivial_i, :] = [13. 6. 17. 23.]
357 cord_individual_obj[indivial_i, :] = [14. 6. 76. 82.]
358 cord_individual_obj[indivial_i, :] = [15. 5. 76. 81.]
359 cord_individual_obj[indivial_i, :] = [16. 5. 61. 66.]
360 cord_individual_obj[indivial_i, :] = [17. 5. 122. 127.]
361 cord_individual_obj[indivial_i, :] = [18. 6. 15. 21.]
362 cord_individual_obj[indivial_i, :] = [19. 7. 70. 77.]
363 cord_individual_obj[indivial_i, :] = [20. 5. 79. 84.]
364 cord_individual_obj[indivial_i, :] = [21. 6. 63. 69.]
365 cord_individual_obj[indivial_i, :] = [22. 6. 52. 58.]
366 cord_individual_obj[indivial_i, :] = [23. 5. 67. 72.]
367 cord_individual_obj[indivial_i, :] = [24. 5. 51. 56.]
368
369 min(cord_individual_obj[:, 3]) = 11.0
370 histol_G_best_iter[iter, 3] = 11.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i, :] = [ 0. 4. 56. 60.]
375 cord_individual_obj[indivial_i, :] = [ 1. 5. 40. 45.]
376 cord_individual_obj[indivial_i, :] = [ 2. 6. 11. 17.]
377 cord_individual_obj[indivial_i, :] = [ 3. 6. 12. 18.]
378 cord_individual_obj[indivial_i, :] = [ 4. 5. 9. 14.]
379 cord_individual_obj[indivial_i, :] = [ 5. 5. 87. 92.]
380 cord_individual_obj[indivial_i, :] = [ 6. 4. 50. 54.]
381 cord_individual_obj[indivial_i, :] = [ 7. 5. 9. 14.]
382 cord_individual_obj[indivial_i, :] = [ 8. 4. 9. 13.]
383 cord_individual_obj[indivial_i, :] = [ 9. 6. 48. 54.]
384 cord_individual_obj[indivial_i, :] = [10. 8. 38. 46.]
385 cord_individual_obj[indivial_i, :] = [11. 4. 37. 41.]
386 cord_individual_obj[indivial_i, :] = [12. 7. 13. 20.]
387 cord_individual_obj[indivial_i, :] = [13. 5. 9. 14.]
388 cord_individual_obj[indivial_i, :] = [14. 4. 35. 39.]
389 cord_individual_obj[indivial_i, :] = [15. 6. 11. 17.]
390 cord_individual_obj[indivial_i, :] = [16. 5. 59. 64.]
391 cord_individual_obj[indivial_i, :] = [17. 4. 7. 11.]
392 cord_individual_obj[indivial_i, :] = [18. 5. 30. 35.]
393 cord_individual_obj[indivial_i, :] = [19. 5. 10. 15.]
394 cord_individual_obj[indivial_i, :] = [20. 6. 11. 17.]
395 cord_individual_obj[indivial_i, :] = [21. 5. 86. 91.]
396 cord_individual_obj[indivial_i, :] = [22. 5. 10. 15.]
397 cord_individual_obj[indivial_i, :] = [23. 5. 28. 33.]
398 cord_individual_obj[indivial_i, :] = [24. 7. 43. 50.]
399
400 min(cord_individual_obj[:, 3]) = 11.0
401 histol_G_best_iter[iter, 3] = 11.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i, :] = [ 0. 5. 56. 61.]
406 cord_individual_obj[indivial_i, :] = [ 1. 4. 77. 81.]
407 cord_individual_obj[indivial_i, :] = [ 2. 7. 38. 45.]
408 cord_individual_obj[indivial_i, :] = [ 3. 7. 58. 65.]
409 cord_individual_obj[indivial_i, :] = [ 4. 6. 33. 39.]
410 cord_individual_obj[indivial_i, :] = [ 5. 4. 7. 11.]
411 cord_individual_obj[indivial_i, :] = [ 6. 4. 43. 47.]
412 cord_individual_obj[indivial_i, :] = [ 7. 7. 20. 27.]
413 cord_individual_obj[indivial_i, :] = [ 8. 7. 26. 33.]
414 cord_individual_obj[indivial_i, :] = [ 9. 6. 43. 49.]
415 cord_individual_obj[indivial_i, :] = [10. 4. 104. 108.]

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416 cord_individual_obj[indivial_i,:] = [11. 5. 54. 59.]
417 cord_individual_obj[indivial_i,:] = [12. 5. 44. 49.]
418 cord_individual_obj[indivial_i,:] = [13. 6. 10. 16.]
419 cord_individual_obj[indivial_i,:] = [14. 7. 42. 49.]
420 cord_individual_obj[indivial_i,:] = [15. 7. 31. 38.]
421 cord_individual_obj[indivial_i,:] = [16. 5. 13. 18.]
422 cord_individual_obj[indivial_i,:] = [17. 5. 90. 95.]
423 cord_individual_obj[indivial_i,:] = [18. 6. 49. 55.]
424 cord_individual_obj[indivial_i,:] = [19. 7. 62. 69.]
425 cord_individual_obj[indivial_i,:] = [20. 7. 53. 60.]
426 cord_individual_obj[indivial_i,:] = [21. 6. 51. 57.]
427 cord_individual_obj[indivial_i,:] = [22. 5. 39. 44.]
428 cord_individual_obj[indivial_i,:] = [23. 6. 47. 53.]
429 cord_individual_obj[indivial_i,:] = [24. 7. 52. 59.]
430
431 min(cord_individual_obj[:,3]) = 11.0
432 histol_G_best_iter[iter,3] = 11.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 5. 38. 43.]
437 cord_individual_obj[indivial_i,:] = [ 1. 5. 66. 71.]
438 cord_individual_obj[indivial_i,:] = [ 2. 5. 13. 18.]
439 cord_individual_obj[indivial_i,:] = [ 3. 6. 151. 157.]
440 cord_individual_obj[indivial_i,:] = [ 4. 5. 49. 54.]
441 cord_individual_obj[indivial_i,:] = [ 5. 4. 49. 53.]
442 cord_individual_obj[indivial_i,:] = [ 6. 5. 30. 35.]
443 cord_individual_obj[indivial_i,:] = [ 7. 5. 43. 48.]
444 cord_individual_obj[indivial_i,:] = [ 8. 5. 32. 37.]
445 cord_individual_obj[indivial_i,:] = [ 9. 6. 79. 85.]
446 cord_individual_obj[indivial_i,:] = [10. 4. 7. 11.]
447 cord_individual_obj[indivial_i,:] = [11. 4. 9. 13.]
448 cord_individual_obj[indivial_i,:] = [12. 6. 93. 99.]
449 cord_individual_obj[indivial_i,:] = [13. 5. 11. 16.]
450 cord_individual_obj[indivial_i,:] = [14. 5. 52. 57.]
451 cord_individual_obj[indivial_i,:] = [15. 5. 48. 53.]
452 cord_individual_obj[indivial_i,:] = [16. 5. 16. 21.]
453 cord_individual_obj[indivial_i,:] = [17. 5. 102. 107.]
454 cord_individual_obj[indivial_i,:] = [18. 5. 13. 18.]
455 cord_individual_obj[indivial_i,:] = [19. 4. 8. 12.]
456 cord_individual_obj[indivial_i,:] = [20. 4. 100. 104.]
457 cord_individual_obj[indivial_i,:] = [21. 5. 38. 43.]
458 cord_individual_obj[indivial_i,:] = [22. 7. 21. 28.]
459 cord_individual_obj[indivial_i,:] = [23. 7. 36. 43.]
460 cord_individual_obj[indivial_i,:] = [24. 5. 48. 53.]
461
462 min(cord_individual_obj[:,3]) = 11.0
463 histol_G_best_iter[iter,3] = 11.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 6. 10. 16.]
468 cord_individual_obj[indivial_i,:] = [ 1. 5. 59. 64.]
469 cord_individual_obj[indivial_i,:] = [ 2. 6. 15. 21.]
470 cord_individual_obj[indivial_i,:] = [ 3. 4. 7. 11.]
471 cord_individual_obj[indivial_i,:] = [ 4. 6. 82. 88.]
472 cord_individual_obj[indivial_i,:] = [ 5. 5. 30. 35.]
473 cord_individual_obj[indivial_i,:] = [ 6. 4. 30. 34.]
474 cord_individual_obj[indivial_i,:] = [ 7. 7. 34. 41.]
475 cord_individual_obj[indivial_i,:] = [ 8. 4. 56. 60.]
476 cord_individual_obj[indivial_i,:] = [ 9. 6. 39. 45.]
477 cord_individual_obj[indivial_i,:] = [10. 5. 15. 20.]
478 cord_individual_obj[indivial_i,:] = [11. 5. 34. 39.]
479 cord_individual_obj[indivial_i,:] = [12. 6. 37. 43.]
480 cord_individual_obj[indivial_i,:] = [13. 6. 50. 56.]
481 cord_individual_obj[indivial_i,:] = [14. 5. 40. 45.]
482 cord_individual_obj[indivial_i,:] = [15. 5. 32. 37.]
483 cord_individual_obj[indivial_i,:] = [16. 4. 57. 61.]
484 cord_individual_obj[indivial_i,:] = [17. 7. 46. 53.]
485 cord_individual_obj[indivial_i,:] = [18. 5. 20. 25.]
486 cord_individual_obj[indivial_i,:] = [19. 5. 10. 15.]
487 cord_individual_obj[indivial_i,:] = [20. 7. 61. 68.]
488 cord_individual_obj[indivial_i,:] = [21. 5. 58. 63.]
489 cord_individual_obj[indivial_i,:] = [22. 5. 35. 40.]
490 cord_individual_obj[indivial_i,:] = [23. 5. 63. 68.]
491 cord_individual_obj[indivial_i,:] = [24. 6. 42. 48.]
492
493 min(cord_individual_obj[:,3]) = 11.0
494 histol_G_best_iter[iter,3] = 11.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 5. 63. 68.]
499 cord_individual_obj[indivial_i,:] = [ 1. 6. 40. 46.]

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500 cord_individual_obj[indivial_i,:] = [ 2. 8. 87. 95.]
501 cord_individual_obj[indivial_i,:] = [ 3. 7. 45. 52.]
502 cord_individual_obj[indivial_i,:] = [ 4. 4. 7. 11.]
503 cord_individual_obj[indivial_i,:] = [ 5. 4. 109. 113.]
504 cord_individual_obj[indivial_i,:] = [ 6. 3. 58. 61.]
505 cord_individual_obj[indivial_i,:] = [ 7. 6. 43. 49.]
506 cord_individual_obj[indivial_i,:] = [ 8. 5. 59. 64.]
507 cord_individual_obj[indivial_i,:] = [ 9. 6. 29. 35.]
508 cord_individual_obj[indivial_i,:] = [10. 4. 9. 13.]
509 cord_individual_obj[indivial_i,:] = [11. 6. 27. 33.]
510 cord_individual_obj[indivial_i,:] = [12. 7. 38. 45.]
511 cord_individual_obj[indivial_i,:] = [13. 5. 50. 55.]
512 cord_individual_obj[indivial_i,:] = [14. 5. 22. 27.]
513 cord_individual_obj[indivial_i,:] = [15. 6. 31. 37.]
514 cord_individual_obj[indivial_i,:] = [16. 7. 52. 59.]
515 cord_individual_obj[indivial_i,:] = [17. 5. 88. 93.]
516 cord_individual_obj[indivial_i,:] = [18. 4. 31. 35.]
517 cord_individual_obj[indivial_i,:] = [19. 6. 21. 27.]
518 cord_individual_obj[indivial_i,:] = [20. 6. 63. 69.]
519 cord_individual_obj[indivial_i,:] = [21. 5. 50. 55.]
520 cord_individual_obj[indivial_i,:] = [22. 5. 81. 86.]
521 cord_individual_obj[indivial_i,:] = [23. 4. 44. 48.]
522 cord_individual_obj[indivial_i,:] = [24. 5. 46. 51.]
523
524 min(cord_individual_obj[:,3]) = 11.0
525 histol_G_best_iter[iter,3] = 11.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i,:] = [ 0. 4. 86. 90.]
530 cord_individual_obj[indivial_i,:] = [ 1. 5. 59. 64.]
531 cord_individual_obj[indivial_i,:] = [ 2. 6. 40. 46.]
532 cord_individual_obj[indivial_i,:] = [ 3. 8. 31. 39.]
533 cord_individual_obj[indivial_i,:] = [ 4. 6. 83. 89.]
534 cord_individual_obj[indivial_i,:] = [ 5. 4. 7. 11.]
535 cord_individual_obj[indivial_i,:] = [ 6. 4. 48. 52.]
536 cord_individual_obj[indivial_i,:] = [ 7. 5. 45. 50.]
537 cord_individual_obj[indivial_i,:] = [ 8. 6. 40. 46.]
538 cord_individual_obj[indivial_i,:] = [ 9. 6. 53. 59.]
539 cord_individual_obj[indivial_i,:] = [10. 5. 98. 103.]
540 cord_individual_obj[indivial_i,:] = [11. 5. 46. 51.]
541 cord_individual_obj[indivial_i,:] = [12. 4. 44. 48.]
542 cord_individual_obj[indivial_i,:] = [13. 5. 47. 52.]
543 cord_individual_obj[indivial_i,:] = [14. 5. 60. 65.]
544 cord_individual_obj[indivial_i,:] = [15. 6. 32. 38.]
545 cord_individual_obj[indivial_i,:] = [16. 6. 31. 37.]
546 cord_individual_obj[indivial_i,:] = [17. 5. 9. 14.]
547 cord_individual_obj[indivial_i,:] = [18. 6. 60. 66.]
548 cord_individual_obj[indivial_i,:] = [19. 7. 31. 38.]
549 cord_individual_obj[indivial_i,:] = [20. 7. 61. 68.]
550 cord_individual_obj[indivial_i,:] = [21. 7. 66. 73.]
551 cord_individual_obj[indivial_i,:] = [22. 6. 39. 45.]
552 cord_individual_obj[indivial_i,:] = [23. 6. 47. 53.]
553 cord_individual_obj[indivial_i,:] = [24. 5. 39. 44.]
554
555 min(cord_individual_obj[:,3]) = 11.0
556 histol_G_best_iter[iter,3] = 11.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i,:] = [ 0. 7. 13. 20.]
561 cord_individual_obj[indivial_i,:] = [ 1. 5. 39. 44.]
562 cord_individual_obj[indivial_i,:] = [ 2. 8. 67. 75.]
563 cord_individual_obj[indivial_i,:] = [ 3. 6. 32. 38.]
564 cord_individual_obj[indivial_i,:] = [ 4. 4. 104. 108.]
565 cord_individual_obj[indivial_i,:] = [ 5. 5. 85. 90.]
566 cord_individual_obj[indivial_i,:] = [ 6. 5. 50. 55.]
567 cord_individual_obj[indivial_i,:] = [ 7. 4. 7. 11.]
568 cord_individual_obj[indivial_i,:] = [ 8. 6. 9. 15.]
569 cord_individual_obj[indivial_i,:] = [ 9. 7. 16. 23.]
570 cord_individual_obj[indivial_i,:] = [10. 4. 7. 11.]
571 cord_individual_obj[indivial_i,:] = [11. 5. 37. 42.]
572 cord_individual_obj[indivial_i,:] = [12. 6. 13. 19.]
573 cord_individual_obj[indivial_i,:] = [13. 6. 48. 54.]
574 cord_individual_obj[indivial_i,:] = [14. 5. 51. 56.]
575 cord_individual_obj[indivial_i,:] = [15. 8. 43. 51.]
576 cord_individual_obj[indivial_i,:] = [16. 4. 80. 84.]
577 cord_individual_obj[indivial_i,:] = [17. 7. 65. 72.]
578 cord_individual_obj[indivial_i,:] = [18. 8. 17. 25.]
579 cord_individual_obj[indivial_i,:] = [19. 7. 57. 64.]
580 cord_individual_obj[indivial_i,:] = [20. 6. 45. 51.]
581 cord_individual_obj[indivial_i,:] = [21. 4. 80. 84.]
582 cord_individual_obj[indivial_i,:] = [22. 5. 9. 14.]
583 cord_individual_obj[indivial_i,:] = [23. 6. 76. 82.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 5. 9. 14.]  
585  
586     min(cord_individual_obj[:, 3]) = 11.0  
587     historl_G_best_iter[iter, 3] = 11.0  
588 Begin iteration:  
589  
590 iter = 18  
591     cord_individual_obj[indivial_i, :] = [ 0. 6. 23. 29.]  
592     cord_individual_obj[indivial_i, :] = [ 1. 5. 42. 47.]  
593     cord_individual_obj[indivial_i, :] = [ 2. 7. 49. 56.]  
594     cord_individual_obj[indivial_i, :] = [ 3. 6. 22. 28.]  
595     cord_individual_obj[indivial_i, :] = [ 4. 4. 7. 11.]  
596     cord_individual_obj[indivial_i, :] = [ 5. 4. 22. 26.]  
597     cord_individual_obj[indivial_i, :] = [ 6. 5. 7. 12.]  
598     cord_individual_obj[indivial_i, :] = [ 7. 6. 30. 36.]  
599     cord_individual_obj[indivial_i, :] = [ 8. 6. 24. 30.]  
600     cord_individual_obj[indivial_i, :] = [ 9. 6. 35. 41.]  
601     cord_individual_obj[indivial_i, :] = [10. 5. 38. 43.]  
602     cord_individual_obj[indivial_i, :] = [11. 5. 34. 39.]  
603     cord_individual_obj[indivial_i, :] = [12. 6. 23. 29.]  
604     cord_individual_obj[indivial_i, :] = [13. 5. 31. 36.]  
605     cord_individual_obj[indivial_i, :] = [14. 8. 54. 62.]  
606     cord_individual_obj[indivial_i, :] = [15. 6. 50. 56.]  
607     cord_individual_obj[indivial_i, :] = [16. 5. 22. 27.]  
608     cord_individual_obj[indivial_i, :] = [17. 6. 31. 37.]  
609     cord_individual_obj[indivial_i, :] = [18. 4. 23. 27.]  
610     cord_individual_obj[indivial_i, :] = [19. 6. 71. 77.]  
611     cord_individual_obj[indivial_i, :] = [20. 6. 11. 17.]  
612     cord_individual_obj[indivial_i, :] = [21. 6. 32. 38.]  
613     cord_individual_obj[indivial_i, :] = [22. 5. 51. 56.]  
614     cord_individual_obj[indivial_i, :] = [23. 5. 54. 59.]  
615     cord_individual_obj[indivial_i, :] = [24. 6. 31. 37.]  
616  
617     min(cord_individual_obj[:, 3]) = 11.0  
618     historl_G_best_iter[iter, 3] = 11.0  
619 Begin iteration:  
620  
621 iter = 19  
622     cord_individual_obj[indivial_i, :] = [ 0. 7. 62. 69.]  
623     cord_individual_obj[indivial_i, :] = [ 1. 4. 81. 85.]  
624     cord_individual_obj[indivial_i, :] = [ 2. 6. 40. 46.]  
625     cord_individual_obj[indivial_i, :] = [ 3. 7. 33. 40.]  
626     cord_individual_obj[indivial_i, :] = [ 4. 5. 61. 66.]  
627     cord_individual_obj[indivial_i, :] = [ 5. 5. 66. 71.]  
628     cord_individual_obj[indivial_i, :] = [ 6. 5. 7. 12.]  
629     cord_individual_obj[indivial_i, :] = [ 7. 6. 36. 42.]  
630     cord_individual_obj[indivial_i, :] = [ 8. 6. 36. 42.]  
631     cord_individual_obj[indivial_i, :] = [ 9. 9. 65. 74.]  
632     cord_individual_obj[indivial_i, :] = [10. 6. 37. 43.]  
633     cord_individual_obj[indivial_i, :] = [11. 4. 30. 34.]  
634     cord_individual_obj[indivial_i, :] = [12. 6. 37. 43.]  
635     cord_individual_obj[indivial_i, :] = [13. 6. 63. 69.]  
636     cord_individual_obj[indivial_i, :] = [14. 7. 53. 60.]  
637     cord_individual_obj[indivial_i, :] = [15. 6. 50. 56.]  
638     cord_individual_obj[indivial_i, :] = [16. 4. 35. 39.]  
639     cord_individual_obj[indivial_i, :] = [17. 6. 9. 15.]  
640     cord_individual_obj[indivial_i, :] = [18. 6. 43. 49.]  
641     cord_individual_obj[indivial_i, :] = [19. 4. 7. 11.]  
642     cord_individual_obj[indivial_i, :] = [20. 6. 37. 43.]  
643     cord_individual_obj[indivial_i, :] = [21. 6. 30. 36.]  
644     cord_individual_obj[indivial_i, :] = [22. 9. 45. 54.]  
645     cord_individual_obj[indivial_i, :] = [23. 5. 47. 52.]  
646     cord_individual_obj[indivial_i, :] = [24. 6. 51. 57.]  
647  
648     min(cord_individual_obj[:, 3]) = 11.0  
649     historl_G_best_iter[iter, 3] = 11.0  
650 Begin iteration:  
651  
652 iter = 20  
653     cord_individual_obj[indivial_i, :] = [ 0. 5. 25. 30.]  
654     cord_individual_obj[indivial_i, :] = [ 1. 4. 7. 11.]  
655     cord_individual_obj[indivial_i, :] = [ 2. 7. 40. 47.]  
656     cord_individual_obj[indivial_i, :] = [ 3. 6. 23. 29.]  
657     cord_individual_obj[indivial_i, :] = [ 4. 5. 53. 58.]  
658     cord_individual_obj[indivial_i, :] = [ 5. 5. 35. 40.]  
659     cord_individual_obj[indivial_i, :] = [ 6. 5. 7. 12.]  
660     cord_individual_obj[indivial_i, :] = [ 7. 6. 29. 35.]  
661     cord_individual_obj[indivial_i, :] = [ 8. 4. 46. 50.]  
662     cord_individual_obj[indivial_i, :] = [ 9. 5. 86. 91.]  
663     cord_individual_obj[indivial_i, :] = [10. 5. 58. 63.]  
664     cord_individual_obj[indivial_i, :] = [11. 4. 35. 39.]  
665     cord_individual_obj[indivial_i, :] = [12. 5. 37. 42.]  
666     cord_individual_obj[indivial_i, :] = [13. 4. 53. 57.]  
667     cord_individual_obj[indivial_i, :] = [14. 5. 40. 45.]
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668 cord_individual_obj[indivial_i,:] = [15. 5. 67. 72.]
669 cord_individual_obj[indivial_i,:] = [16. 5. 77. 82.]
670 cord_individual_obj[indivial_i,:] = [17. 8. 13. 21.]
671 cord_individual_obj[indivial_i,:] = [18. 3. 45. 48.]
672 cord_individual_obj[indivial_i,:] = [19. 5. 49. 54.]
673 cord_individual_obj[indivial_i,:] = [20. 5. 29. 34.]
674 cord_individual_obj[indivial_i,:] = [21. 6. 44. 50.]
675 cord_individual_obj[indivial_i,:] = [22. 4. 50. 54.]
676 cord_individual_obj[indivial_i,:] = [23. 6. 61. 67.]
677 cord_individual_obj[indivial_i,:] = [24. 9. 53. 62.]
678
679 min(cord_individual_obj[:, 3]) = 11.0
680 historl_G_best_iter[iter, 3] = 11.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 160.0
689 Proportion_of_area = 0.14814814814814814
690 BEST_CHROM =
691     berth: [16.5 3.5 10.5 22. 11. 23.5 16.5 3.5]
692     time: [0. 0. 0. 0. 2. 1. 2. 2.]
693     num_QC: [3. 3. 5. 6. 2. 2. 3. 3.]
694 Objective function values and some other indicators:
695 Obj0 = 4.00          Obj1 = 7.00          Obj0 + Obj1 = 11.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 7.00
698 Total index of q during berthing: 508.00
699 Specific arrangement for each vessel:
700
    V_id: 0           li: 5.0           xi: 16.5           bow of i: 14.0           tail of i: 19.0           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: 100.0           work
701 load_i: 100.0
    V_id: 1           li: 7.0           xi: 3.5           bow of i: 0.0           tail of i: 7.0           gama_i0: 0.0           gama_i1: 1.0
    .0             gama_i1 + 1: 2.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 100.0           work load_i:
    100.0
    work load gap_i: 0
702 V_id: 2           li: 7.0           xi: 10.5           bow of i: 7.0           tail of i: 14.0           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: 140.0           work
    140.0
    work load gap_i: 0
703 V_id: 3           li: 6.0           xi: 22.0           bow of i: 19.0           tail of i: 25.0           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: 60.0           work
    60.0
    work load gap_i: 0
704 V_id: 4           li: 8.0           xi: 11.0           bow of i: 7.0           tail of i: 15.0           gama_i0: 2.0           gama_i1: 4
    .0             gama_i1 + 1: 5.0       gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 100.0           work
    100.0
    work load gap_i: 0
705 V_id: 5           li: 9.0           xi: 23.5           bow of i: 19.0           tail of i: 28.0           gama_i0: 1.0           gama_i1: 4
    .0             gama_i1 + 1: 5.0       gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 160.0           work
    160.0
    work load gap_i: 0
706 V_id: 6           li: 3.0           xi: 16.5           bow of i: 15.0           tail of i: 18.0           gama_i0: 2.0           gama_i1: 4
    .0             gama_i1 + 1: 5.0       gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 140.0           work
    140.0
    work load gap_i: 0
707 V_id: 7           li: 7.0           xi: 3.5           bow of i: 0.0           tail of i: 7.0           gama_i0: 2.0           gama_i1: 4
    .0             gama_i1 + 1: 5.0       gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 140.0           work load_i:
    140.0
    work load gap_i: 0
708
709 Algorithm finished and the total CPU time: 224 s
710 End
711

```