

unknown

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80 cord_individual_obj[indivial_i,:] = [16. 6. 14. 20.]
81 cord_individual_obj[indivial_i,:] = [17. 5. 51. 56.]
82 cord_individual_obj[indivial_i,:] = [18. 5. 49. 54.]
83 cord_individual_obj[indivial_i,:] = [19. 7. 41. 48.]
84 cord_individual_obj[indivial_i,:] = [20. 7. 97. 104.]
85 cord_individual_obj[indivial_i,:] = [21. 7. 85. 92.]
86 cord_individual_obj[indivial_i,:] = [22. 6. 56. 62.]
87 cord_individual_obj[indivial_i,:] = [23. 3. 33. 36.]
88 cord_individual_obj[indivial_i,:] = [24. 5. 13. 18.]
89
90 min(cord_individual_obj[:,3]) = 12.0
91 historl_G_best_iter[iter, 3] = 12.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 8. 94. 102.]
96 cord_individual_obj[indivial_i,:] = [ 1. 5. 7. 12.]
97 cord_individual_obj[indivial_i,:] = [ 2. 4. 65. 69.]
98 cord_individual_obj[indivial_i,:] = [ 3. 7. 72. 79.]
99 cord_individual_obj[indivial_i,:] = [ 4. 5. 81. 86.]
100 cord_individual_obj[indivial_i,:] = [ 5. 8. 123. 131.]
101 cord_individual_obj[indivial_i,:] = [ 6. 5. 89. 94.]
102 cord_individual_obj[indivial_i,:] = [ 7. 7. 57. 64.]
103 cord_individual_obj[indivial_i,:] = [ 8. 11. 30. 41.]
104 cord_individual_obj[indivial_i,:] = [ 9. 5. 86. 91.]
105 cord_individual_obj[indivial_i,:] = [ 10. 7. 105. 112.]
106 cord_individual_obj[indivial_i,:] = [ 11. 6. 42. 48.]
107 cord_individual_obj[indivial_i,:] = [ 12. 4. 55. 59.]
108 cord_individual_obj[indivial_i,:] = [ 13. 4. 122. 126.]
109 cord_individual_obj[indivial_i,:] = [ 14. 6. 107. 113.]
110 cord_individual_obj[indivial_i,:] = [ 15. 4. 87. 91.]
111 cord_individual_obj[indivial_i,:] = [ 16. 4. 101. 105.]
112 cord_individual_obj[indivial_i,:] = [ 17. 6. 70. 76.]
113 cord_individual_obj[indivial_i,:] = [ 18. 6. 49. 55.]
114 cord_individual_obj[indivial_i,:] = [ 19. 5. 57. 62.]
115 cord_individual_obj[indivial_i,:] = [ 20. 4. 101. 105.]
116 cord_individual_obj[indivial_i,:] = [ 21. 6. 32. 38.]
117 cord_individual_obj[indivial_i,:] = [ 22. 6. 39. 45.]
118 cord_individual_obj[indivial_i,:] = [ 23. 7. 44. 51.]
119 cord_individual_obj[indivial_i,:] = [ 24. 7. 56. 63.]
120
121 min(cord_individual_obj[:,3]) = 12.0
122 historl_G_best_iter[iter, 3] = 12.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 8. 58. 66.]
127 cord_individual_obj[indivial_i,:] = [ 1. 4. 103. 107.]
128 cord_individual_obj[indivial_i,:] = [ 2. 4. 93. 97.]
129 cord_individual_obj[indivial_i,:] = [ 3. 3. 122. 125.]
130 cord_individual_obj[indivial_i,:] = [ 4. 5. 68. 73.]
131 cord_individual_obj[indivial_i,:] = [ 5. 5. 7. 12.]
132 cord_individual_obj[indivial_i,:] = [ 6. 6. 69. 75.]
133 cord_individual_obj[indivial_i,:] = [ 7. 7. 75. 82.]
134 cord_individual_obj[indivial_i,:] = [ 8. 5. 115. 120.]
135 cord_individual_obj[indivial_i,:] = [ 9. 6. 164. 170.]
136 cord_individual_obj[indivial_i,:] = [ 10. 5. 99. 104.]
137 cord_individual_obj[indivial_i,:] = [ 11. 6. 58. 64.]
138 cord_individual_obj[indivial_i,:] = [ 12. 3. 82. 85.]
139 cord_individual_obj[indivial_i,:] = [ 13. 6. 119. 125.]
140 cord_individual_obj[indivial_i,:] = [ 14. 3. 67. 70.]
141 cord_individual_obj[indivial_i,:] = [ 15. 4. 88. 92.]
142 cord_individual_obj[indivial_i,:] = [ 16. 4. 144. 148.]
143 cord_individual_obj[indivial_i,:] = [ 17. 5. 65. 70.]
144 cord_individual_obj[indivial_i,:] = [ 18. 5. 48. 53.]
145 cord_individual_obj[indivial_i,:] = [ 19. 4. 89. 93.]
146 cord_individual_obj[indivial_i,:] = [ 20. 5. 117. 122.]
147 cord_individual_obj[indivial_i,:] = [ 21. 4. 103. 107.]
148 cord_individual_obj[indivial_i,:] = [ 22. 4. 20. 24.]
149 cord_individual_obj[indivial_i,:] = [ 23. 5. 147. 152.]
150 cord_individual_obj[indivial_i,:] = [ 24. 5. 14. 19.]
151
152 min(cord_individual_obj[:,3]) = 12.0
153 historl_G_best_iter[iter, 3] = 12.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 6. 104. 110.]
158 cord_individual_obj[indivial_i,:] = [ 1. 4. 125. 129.]
159 cord_individual_obj[indivial_i,:] = [ 2. 4. 85. 89.]
160 cord_individual_obj[indivial_i,:] = [ 3. 5. 99. 104.]
161 cord_individual_obj[indivial_i,:] = [ 4. 5. 102. 107.]
162 cord_individual_obj[indivial_i,:] = [ 5. 7. 14. 21.]
163 cord_individual_obj[indivial_i,:] = [ 6. 5. 71. 76.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 4. 78. 82.]
165 cord_individual_obj[indivial_i,:] = [ 8. 5. 121. 126.]
166 cord_individual_obj[indivial_i,:] = [ 9. 5. 7. 12.]
167 cord_individual_obj[indivial_i,:] = [ 10. 5. 109. 114.]
168 cord_individual_obj[indivial_i,:] = [ 11. 5. 102. 107.]
169 cord_individual_obj[indivial_i,:] = [12. 3. 82. 85.]
170 cord_individual_obj[indivial_i,:] = [13. 4. 208. 212.]
171 cord_individual_obj[indivial_i,:] = [14. 5. 66. 71.]
172 cord_individual_obj[indivial_i,:] = [15. 5. 125. 130.]
173 cord_individual_obj[indivial_i,:] = [16. 4. 114. 118.]
174 cord_individual_obj[indivial_i,:] = [17. 4. 59. 63.]
175 cord_individual_obj[indivial_i,:] = [18. 4. 112. 116.]
176 cord_individual_obj[indivial_i,:] = [19. 5. 81. 86.]
177 cord_individual_obj[indivial_i,:] = [20. 5. 106. 111.]
178 cord_individual_obj[indivial_i,:] = [21. 6. 117. 123.]
179 cord_individual_obj[indivial_i,:] = [22. 3. 125. 128.]
180 cord_individual_obj[indivial_i,:] = [23. 4. 98. 102.]
181 cord_individual_obj[indivial_i,:] = [24. 3. 38. 41.]
182
183 min(cord_individual_obj[:,3]) = 12.0
184 historl_G_best_iter[iter,3] = 12.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 5. 65. 70.]
189 cord_individual_obj[indivial_i,:] = [ 1. 4. 109. 113.]
190 cord_individual_obj[indivial_i,:] = [ 2. 5. 107. 112.]
191 cord_individual_obj[indivial_i,:] = [ 3. 4. 109. 113.]
192 cord_individual_obj[indivial_i,:] = [ 4. 5. 116. 121.]
193 cord_individual_obj[indivial_i,:] = [ 5. 5. 12. 17.]
194 cord_individual_obj[indivial_i,:] = [ 6. 5. 71. 76.]
195 cord_individual_obj[indivial_i,:] = [ 7. 5. 146. 151.]
196 cord_individual_obj[indivial_i,:] = [ 8. 4. 78. 82.]
197 cord_individual_obj[indivial_i,:] = [ 9. 6. 62. 68.]
198 cord_individual_obj[indivial_i,:] = [10. 4. 46. 50.]
199 cord_individual_obj[indivial_i,:] = [11. 4. 168. 172.]
200 cord_individual_obj[indivial_i,:] = [12. 3. 80. 83.]
201 cord_individual_obj[indivial_i,:] = [13. 5. 7. 12.]
202 cord_individual_obj[indivial_i,:] = [14. 6. 45. 51.]
203 cord_individual_obj[indivial_i,:] = [15. 5. 61. 66.]
204 cord_individual_obj[indivial_i,:] = [16. 4. 80. 84.]
205 cord_individual_obj[indivial_i,:] = [17. 3. 71. 74.]
206 cord_individual_obj[indivial_i,:] = [18. 4. 59. 63.]
207 cord_individual_obj[indivial_i,:] = [19. 5. 76. 81.]
208 cord_individual_obj[indivial_i,:] = [20. 5. 84. 89.]
209 cord_individual_obj[indivial_i,:] = [21. 4. 150. 154.]
210 cord_individual_obj[indivial_i,:] = [22. 4. 77. 81.]
211 cord_individual_obj[indivial_i,:] = [23. 6. 58. 64.]
212 cord_individual_obj[indivial_i,:] = [24. 4. 129. 133.]
213
214 min(cord_individual_obj[:,3]) = 12.0
215 historl_G_best_iter[iter,3] = 12.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 5. 8. 13.]
220 cord_individual_obj[indivial_i,:] = [ 1. 3. 133. 136.]
221 cord_individual_obj[indivial_i,:] = [ 2. 5. 59. 64.]
222 cord_individual_obj[indivial_i,:] = [ 3. 4. 17. 21.]
223 cord_individual_obj[indivial_i,:] = [ 4. 5. 51. 56.]
224 cord_individual_obj[indivial_i,:] = [ 5. 4. 97. 101.]
225 cord_individual_obj[indivial_i,:] = [ 6. 5. 69. 74.]
226 cord_individual_obj[indivial_i,:] = [ 7. 7. 54. 61.]
227 cord_individual_obj[indivial_i,:] = [ 8. 5. 35. 40.]
228 cord_individual_obj[indivial_i,:] = [ 9. 5. 122. 127.]
229 cord_individual_obj[indivial_i,:] = [10. 5. 24. 29.]
230 cord_individual_obj[indivial_i,:] = [11. 5. 7. 12.]
231 cord_individual_obj[indivial_i,:] = [12. 5. 70. 75.]
232 cord_individual_obj[indivial_i,:] = [13. 5. 139. 144.]
233 cord_individual_obj[indivial_i,:] = [14. 4. 88. 92.]
234 cord_individual_obj[indivial_i,:] = [15. 4. 101. 105.]
235 cord_individual_obj[indivial_i,:] = [16. 4. 74. 78.]
236 cord_individual_obj[indivial_i,:] = [17. 3. 59. 62.]
237 cord_individual_obj[indivial_i,:] = [18. 5. 47. 52.]
238 cord_individual_obj[indivial_i,:] = [19. 5. 22. 27.]
239 cord_individual_obj[indivial_i,:] = [20. 5. 117. 122.]
240 cord_individual_obj[indivial_i,:] = [21. 5. 66. 71.]
241 cord_individual_obj[indivial_i,:] = [22. 7. 16. 23.]
242 cord_individual_obj[indivial_i,:] = [23. 8. 43. 51.]
243 cord_individual_obj[indivial_i,:] = [24. 6. 94. 100.]
244
245 min(cord_individual_obj[:,3]) = 12.0
246 historl_G_best_iter[iter,3] = 12.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [0. 4. 5. 9.]
251 cord_individual_obj[indivial_i, :] = [1. 5. 164. 169.]
252 cord_individual_obj[indivial_i, :] = [2. 6. 76. 82.]
253 cord_individual_obj[indivial_i, :] = [3. 5. 105. 110.]
254 cord_individual_obj[indivial_i, :] = [4. 5. 15. 20.]
255 cord_individual_obj[indivial_i, :] = [5. 7. 49. 56.]
256 cord_individual_obj[indivial_i, :] = [6. 5. 69. 74.]
257 cord_individual_obj[indivial_i, :] = [7. 4. 93. 97.]
258 cord_individual_obj[indivial_i, :] = [8. 5. 49. 54.]
259 cord_individual_obj[indivial_i, :] = [9. 4. 158. 162.]
260 cord_individual_obj[indivial_i, :] = [10. 5. 9. 14.]
261 cord_individual_obj[indivial_i, :] = [11. 5. 59. 64.]
262 cord_individual_obj[indivial_i, :] = [12. 4. 60. 64.]
263 cord_individual_obj[indivial_i, :] = [13. 5. 7. 12.]
264 cord_individual_obj[indivial_i, :] = [14. 8. 68. 76.]
265 cord_individual_obj[indivial_i, :] = [15. 5. 56. 61.]
266 cord_individual_obj[indivial_i, :] = [16. 4. 114. 118.]
267 cord_individual_obj[indivial_i, :] = [17. 5. 91. 96.]
268 cord_individual_obj[indivial_i, :] = [18. 6. 27. 33.]
269 cord_individual_obj[indivial_i, :] = [19. 4. 123. 127.]
270 cord_individual_obj[indivial_i, :] = [20. 4. 116. 120.]
271 cord_individual_obj[indivial_i, :] = [21. 4. 160. 164.]
272 cord_individual_obj[indivial_i, :] = [22. 6. 85. 91.]
273 cord_individual_obj[indivial_i, :] = [23. 5. 104. 109.]
274 cord_individual_obj[indivial_i, :] = [24. 7. 18. 25.]
275

276 min(cord_individual_obj[:, 3]) = 9.0
277 historl_G_best_iter[iter, 3] = 9.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [0. 5. 24. 29.]
282 cord_individual_obj[indivial_i, :] = [1. 4. 5. 9.]
283 cord_individual_obj[indivial_i, :] = [2. 5. 21. 26.]
284 cord_individual_obj[indivial_i, :] = [3. 8. 69. 77.]
285 cord_individual_obj[indivial_i, :] = [4. 6. 50. 56.]
286 cord_individual_obj[indivial_i, :] = [5. 5. 31. 36.]
287 cord_individual_obj[indivial_i, :] = [6. 5. 88. 93.]
288 cord_individual_obj[indivial_i, :] = [7. 5. 41. 46.]
289 cord_individual_obj[indivial_i, :] = [8. 6. 47. 53.]
290 cord_individual_obj[indivial_i, :] = [9. 7. 26. 33.]
291 cord_individual_obj[indivial_i, :] = [10. 3. 76. 79.]
292 cord_individual_obj[indivial_i, :] = [11. 5. 37. 42.]
293 cord_individual_obj[indivial_i, :] = [12. 4. 99. 103.]
294 cord_individual_obj[indivial_i, :] = [13. 5. 15. 20.]
295 cord_individual_obj[indivial_i, :] = [14. 7. 34. 41.]
296 cord_individual_obj[indivial_i, :] = [15. 7. 51. 58.]
297 cord_individual_obj[indivial_i, :] = [16. 7. 60. 67.]
298 cord_individual_obj[indivial_i, :] = [17. 7. 34. 41.]
299 cord_individual_obj[indivial_i, :] = [18. 7. 28. 35.]
300 cord_individual_obj[indivial_i, :] = [19. 6. 65. 71.]
301 cord_individual_obj[indivial_i, :] = [20. 7. 59. 66.]
302 cord_individual_obj[indivial_i, :] = [21. 6. 43. 49.]
303 cord_individual_obj[indivial_i, :] = [22. 5. 12. 17.]
304 cord_individual_obj[indivial_i, :] = [23. 6. 39. 45.]
305 cord_individual_obj[indivial_i, :] = [24. 4. 19. 23.]
306

307 min(cord_individual_obj[:, 3]) = 9.0
308 historl_G_best_iter[iter, 3] = 9.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [0. 4. 21. 25.]
313 cord_individual_obj[indivial_i, :] = [1. 8. 44. 52.]
314 cord_individual_obj[indivial_i, :] = [2. 5. 42. 47.]
315 cord_individual_obj[indivial_i, :] = [3. 5. 21. 26.]
316 cord_individual_obj[indivial_i, :] = [4. 5. 29. 34.]
317 cord_individual_obj[indivial_i, :] = [5. 5. 31. 36.]
318 cord_individual_obj[indivial_i, :] = [6. 4. 67. 71.]
319 cord_individual_obj[indivial_i, :] = [7. 6. 34. 40.]
320 cord_individual_obj[indivial_i, :] = [8. 5. 24. 29.]
321 cord_individual_obj[indivial_i, :] = [9. 5. 46. 51.]
322 cord_individual_obj[indivial_i, :] = [10. 5. 30. 35.]
323 cord_individual_obj[indivial_i, :] = [11. 5. 13. 18.]
324 cord_individual_obj[indivial_i, :] = [12. 4. 5. 9.]
325 cord_individual_obj[indivial_i, :] = [13. 4. 35. 39.]
326 cord_individual_obj[indivial_i, :] = [14. 7. 13. 20.]
327 cord_individual_obj[indivial_i, :] = [15. 7. 55. 62.]
328 cord_individual_obj[indivial_i, :] = [16. 7. 68. 75.]
329 cord_individual_obj[indivial_i, :] = [17. 5. 6. 11.]
330 cord_individual_obj[indivial_i, :] = [18. 5. 10. 15.]
331 cord_individual_obj[indivial_i, :] = [19. 7. 89. 96.]

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unknown

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332 cord_individual_obj[indivial_i, :] = [20. 4. 24. 28.]  
333 cord_individual_obj[indivial_i, :] = [21. 7. 34. 41.]  
334 cord_individual_obj[indivial_i, :] = [22. 4. 66. 70.]  
335 cord_individual_obj[indivial_i, :] = [23. 8. 46. 54.]  
336 cord_individual_obj[indivial_i, :] = [24. 8. 13. 21.]  
337  
338 min(cord_individual_obj[:, 3]) = 9.0  
339 histol_G_best_iter[iter, 3] = 9.0  
340 Begin iteration:  
341  
342 iter = 10  
343 cord_individual_obj[indivial_i, :] = [ 0. 8. 75. 83.]  
344 cord_individual_obj[indivial_i, :] = [ 1. 6. 59. 65.]  
345 cord_individual_obj[indivial_i, :] = [ 2. 5. 42. 47.]  
346 cord_individual_obj[indivial_i, :] = [ 3. 5. 21. 26.]  
347 cord_individual_obj[indivial_i, :] = [ 4. 5. 29. 34.]  
348 cord_individual_obj[indivial_i, :] = [ 5. 5. 31. 36.]  
349 cord_individual_obj[indivial_i, :] = [ 6. 5. 57. 62.]  
350 cord_individual_obj[indivial_i, :] = [ 7. 6. 43. 49.]  
351 cord_individual_obj[indivial_i, :] = [ 8. 6. 31. 37.]  
352 cord_individual_obj[indivial_i, :] = [ 9. 5. 32. 37.]  
353 cord_individual_obj[indivial_i, :] = [10. 5. 30. 35.]  
354 cord_individual_obj[indivial_i, :] = [11. 5. 13. 18.]  
355 cord_individual_obj[indivial_i, :] = [12. 4. 97. 101.]  
356 cord_individual_obj[indivial_i, :] = [13. 6. 32. 38.]  
357 cord_individual_obj[indivial_i, :] = [14. 8. 76. 84.]  
358 cord_individual_obj[indivial_i, :] = [15. 6. 51. 57.]  
359 cord_individual_obj[indivial_i, :] = [16. 7. 58. 65.]  
360 cord_individual_obj[indivial_i, :] = [17. 6. 59. 65.]  
361 cord_individual_obj[indivial_i, :] = [18. 6. 84. 90.]  
362 cord_individual_obj[indivial_i, :] = [19. 4. 5. 9.]  
363 cord_individual_obj[indivial_i, :] = [20. 7. 48. 55.]  
364 cord_individual_obj[indivial_i, :] = [21. 4. 62. 66.]  
365 cord_individual_obj[indivial_i, :] = [22. 9. 65. 74.]  
366 cord_individual_obj[indivial_i, :] = [23. 8. 60. 68.]  
367 cord_individual_obj[indivial_i, :] = [24. 6. 78. 84.]  
368  
369 min(cord_individual_obj[:, 3]) = 9.0  
370 histol_G_best_iter[iter, 3] = 9.0  
371 Begin iteration:  
372  
373 iter = 11  
374 cord_individual_obj[indivial_i, :] = [ 0. 5. 24. 29.]  
375 cord_individual_obj[indivial_i, :] = [ 1. 5. 41. 46.]  
376 cord_individual_obj[indivial_i, :] = [ 2. 5. 65. 70.]  
377 cord_individual_obj[indivial_i, :] = [ 3. 4. 26. 30.]  
378 cord_individual_obj[indivial_i, :] = [ 4. 3. 89. 92.]  
379 cord_individual_obj[indivial_i, :] = [ 5. 4. 31. 35.]  
380 cord_individual_obj[indivial_i, :] = [ 6. 5. 83. 88.]  
381 cord_individual_obj[indivial_i, :] = [ 7. 7. 62. 69.]  
382 cord_individual_obj[indivial_i, :] = [ 8. 7. 45. 52.]  
383 cord_individual_obj[indivial_i, :] = [ 9. 8. 28. 36.]  
384 cord_individual_obj[indivial_i, :] = [10. 6. 69. 75.]  
385 cord_individual_obj[indivial_i, :] = [11. 4. 30. 34.]  
386 cord_individual_obj[indivial_i, :] = [12. 4. 5. 9.]  
387 cord_individual_obj[indivial_i, :] = [13. 5. 33. 38.]  
388 cord_individual_obj[indivial_i, :] = [14. 7. 34. 41.]  
389 cord_individual_obj[indivial_i, :] = [15. 7. 63. 70.]  
390 cord_individual_obj[indivial_i, :] = [16. 7. 62. 69.]  
391 cord_individual_obj[indivial_i, :] = [17. 7. 58. 65.]  
392 cord_individual_obj[indivial_i, :] = [18. 7. 21. 28.]  
393 cord_individual_obj[indivial_i, :] = [19. 5. 84. 89.]  
394 cord_individual_obj[indivial_i, :] = [20. 7. 69. 76.]  
395 cord_individual_obj[indivial_i, :] = [21. 5. 88. 93.]  
396 cord_individual_obj[indivial_i, :] = [22. 5. 35. 40.]  
397 cord_individual_obj[indivial_i, :] = [23. 7. 14. 21.]  
398 cord_individual_obj[indivial_i, :] = [24. 7. 39. 46.]  
399  
400 min(cord_individual_obj[:, 3]) = 9.0  
401 histol_G_best_iter[iter, 3] = 9.0  
402 Begin iteration:  
403  
404 iter = 12  
405 cord_individual_obj[indivial_i, :] = [ 0. 8. 65. 73.]  
406 cord_individual_obj[indivial_i, :] = [ 1. 6. 88. 94.]  
407 cord_individual_obj[indivial_i, :] = [ 2. 7. 42. 49.]  
408 cord_individual_obj[indivial_i, :] = [ 3. 6. 45. 51.]  
409 cord_individual_obj[indivial_i, :] = [ 4. 5. 58. 63.]  
410 cord_individual_obj[indivial_i, :] = [ 5. 5. 31. 36.]  
411 cord_individual_obj[indivial_i, :] = [ 6. 6. 22. 28.]  
412 cord_individual_obj[indivial_i, :] = [ 7. 7. 52. 59.]  
413 cord_individual_obj[indivial_i, :] = [ 8. 4. 41. 45.]  
414 cord_individual_obj[indivial_i, :] = [ 9. 8. 52. 60.]  
415 cord_individual_obj[indivial_i, :] = [10. 6. 50. 56.]
```

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416 cord_individual_obj[indivial_i,:] = [11. 4. 20. 24.]
417 cord_individual_obj[indivial_i,:] = [12. 5. 99. 104.]
418 cord_individual_obj[indivial_i,:] = [13. 6. 38. 44.]
419 cord_individual_obj[indivial_i,:] = [14. 7. 33. 40.]
420 cord_individual_obj[indivial_i,:] = [15. 5. 39. 44.]
421 cord_individual_obj[indivial_i,:] = [16. 7. 60. 67.]
422 cord_individual_obj[indivial_i,:] = [17. 7. 54. 61.]
423 cord_individual_obj[indivial_i,:] = [18. 6. 104. 110.]
424 cord_individual_obj[indivial_i,:] = [19. 7. 56. 63.]
425 cord_individual_obj[indivial_i,:] = [20. 5. 41. 46.]
426 cord_individual_obj[indivial_i,:] = [21. 4. 5. 9.]
427 cord_individual_obj[indivial_i,:] = [22. 5. 26. 31.]
428 cord_individual_obj[indivial_i,:] = [23. 8. 49. 57.]
429 cord_individual_obj[indivial_i,:] = [24. 6. 36. 42.]
430
431 min(cord_individual_obj[:,3]) = 9.0
432 histol_G_best_iter[iter,3] = 9.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [0. 6. 68. 74.]
437 cord_individual_obj[indivial_i,:] = [1. 5. 7. 12.]
438 cord_individual_obj[indivial_i,:] = [2. 7. 41. 48.]
439 cord_individual_obj[indivial_i,:] = [3. 4. 6. 10.]
440 cord_individual_obj[indivial_i,:] = [4. 5. 23. 28.]
441 cord_individual_obj[indivial_i,:] = [5. 7. 111. 118.]
442 cord_individual_obj[indivial_i,:] = [6. 4. 67. 71.]
443 cord_individual_obj[indivial_i,:] = [7. 4. 27. 31.]
444 cord_individual_obj[indivial_i,:] = [8. 5. 42. 47.]
445 cord_individual_obj[indivial_i,:] = [9. 5. 20. 25.]
446 cord_individual_obj[indivial_i,:] = [10. 5. 9. 14.]
447 cord_individual_obj[indivial_i,:] = [11. 5. 19. 24.]
448 cord_individual_obj[indivial_i,:] = [12. 4. 97. 101.]
449 cord_individual_obj[indivial_i,:] = [13. 9. 93. 102.]
450 cord_individual_obj[indivial_i,:] = [14. 6. 12. 18.]
451 cord_individual_obj[indivial_i,:] = [15. 7. 48. 55.]
452 cord_individual_obj[indivial_i,:] = [16. 5. 27. 32.]
453 cord_individual_obj[indivial_i,:] = [17. 6. 79. 85.]
454 cord_individual_obj[indivial_i,:] = [18. 4. 5. 9.]
455 cord_individual_obj[indivial_i,:] = [19. 5. 83. 88.]
456 cord_individual_obj[indivial_i,:] = [20. 5. 22. 27.]
457 cord_individual_obj[indivial_i,:] = [21. 5. 41. 46.]
458 cord_individual_obj[indivial_i,:] = [22. 5. 56. 61.]
459 cord_individual_obj[indivial_i,:] = [23. 8. 57. 65.]
460 cord_individual_obj[indivial_i,:] = [24. 5. 7. 12.]
461
462 min(cord_individual_obj[:,3]) = 9.0
463 histol_G_best_iter[iter,3] = 9.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [0. 5. 30. 35.]
468 cord_individual_obj[indivial_i,:] = [1. 5. 82. 87.]
469 cord_individual_obj[indivial_i,:] = [2. 6. 25. 31.]
470 cord_individual_obj[indivial_i,:] = [3. 5. 15. 20.]
471 cord_individual_obj[indivial_i,:] = [4. 6. 28. 34.]
472 cord_individual_obj[indivial_i,:] = [5. 4. 5. 9.]
473 cord_individual_obj[indivial_i,:] = [6. 5. 55. 60.]
474 cord_individual_obj[indivial_i,:] = [7. 6. 58. 64.]
475 cord_individual_obj[indivial_i,:] = [8. 6. 24. 30.]
476 cord_individual_obj[indivial_i,:] = [9. 5. 29. 34.]
477 cord_individual_obj[indivial_i,:] = [10. 7. 80. 87.]
478 cord_individual_obj[indivial_i,:] = [11. 4. 26. 30.]
479 cord_individual_obj[indivial_i,:] = [12. 5. 99. 104.]
480 cord_individual_obj[indivial_i,:] = [13. 4. 23. 27.]
481 cord_individual_obj[indivial_i,:] = [14. 5. 80. 85.]
482 cord_individual_obj[indivial_i,:] = [15. 6. 51. 57.]
483 cord_individual_obj[indivial_i,:] = [16. 7. 46. 53.]
484 cord_individual_obj[indivial_i,:] = [17. 8. 48. 56.]
485 cord_individual_obj[indivial_i,:] = [18. 6. 40. 46.]
486 cord_individual_obj[indivial_i,:] = [19. 6. 61. 67.]
487 cord_individual_obj[indivial_i,:] = [20. 6. 37. 43.]
488 cord_individual_obj[indivial_i,:] = [21. 6. 33. 39.]
489 cord_individual_obj[indivial_i,:] = [22. 7. 54. 61.]
490 cord_individual_obj[indivial_i,:] = [23. 7. 54. 61.]
491 cord_individual_obj[indivial_i,:] = [24. 6. 14. 20.]
492
493 min(cord_individual_obj[:,3]) = 9.0
494 histol_G_best_iter[iter,3] = 9.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [0. 4. 21. 25.]
499 cord_individual_obj[indivial_i,:] = [1. 5. 11. 16.]

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500 cord_individual_obj[indivial_i, :] = [ 2. 5. 33. 38.]
501 cord_individual_obj[indivial_i, :] = [ 3. 5. 40. 45.]
502 cord_individual_obj[indivial_i, :] = [ 4. 7. 73. 80.]
503 cord_individual_obj[indivial_i, :] = [ 5. 4. 31. 35.]
504 cord_individual_obj[indivial_i, :] = [ 6. 6. 108. 114.]
505 cord_individual_obj[indivial_i, :] = [ 7. 7. 42. 49.]
506 cord_individual_obj[indivial_i, :] = [ 8. 5. 31. 36.]
507 cord_individual_obj[indivial_i, :] = [ 9. 5. 20. 25.]
508 cord_individual_obj[indivial_i, :] = [10. 5. 8. 13.]
509 cord_individual_obj[indivial_i, :] = [11. 6. 14. 20.]
510 cord_individual_obj[indivial_i, :] = [12. 4. 5. 9.]
511 cord_individual_obj[indivial_i, :] = [13. 8. 103. 111.]
512 cord_individual_obj[indivial_i, :] = [14. 6. 49. 55.]
513 cord_individual_obj[indivial_i, :] = [15. 6. 53. 59.]
514 cord_individual_obj[indivial_i, :] = [16. 7. 59. 66.]
515 cord_individual_obj[indivial_i, :] = [17. 5. 57. 62.]
516 cord_individual_obj[indivial_i, :] = [18. 5. 8. 13.]
517 cord_individual_obj[indivial_i, :] = [19. 5. 81. 86.]
518 cord_individual_obj[indivial_i, :] = [20. 5. 23. 28.]
519 cord_individual_obj[indivial_i, :] = [21. 4. 45. 49.]
520 cord_individual_obj[indivial_i, :] = [22. 7. 35. 42.]
521 cord_individual_obj[indivial_i, :] = [23. 9. 42. 51.]
522 cord_individual_obj[indivial_i, :] = [24. 6. 38. 44.]
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. 5. 26. 31.]
530 cord_individual_obj[indivial_i, :] = [ 1. 7. 31. 38.]
531 cord_individual_obj[indivial_i, :] = [ 2. 4. 22. 26.]
532 cord_individual_obj[indivial_i, :] = [ 3. 5. 12. 17.]
533 cord_individual_obj[indivial_i, :] = [ 4. 8. 47. 55.]
534 cord_individual_obj[indivial_i, :] = [ 5. 6. 79. 85.]
535 cord_individual_obj[indivial_i, :] = [ 6. 4. 5. 9.]
536 cord_individual_obj[indivial_i, :] = [ 7. 6. 33. 39.]
537 cord_individual_obj[indivial_i, :] = [ 8. 7. 62. 69.]
538 cord_individual_obj[indivial_i, :] = [ 9. 4. 28. 32.]
539 cord_individual_obj[indivial_i, :] = [10. 5. 12. 17.]
540 cord_individual_obj[indivial_i, :] = [11. 7. 30. 37.]
541 cord_individual_obj[indivial_i, :] = [12. 4. 99. 103.]
542 cord_individual_obj[indivial_i, :] = [13. 7. 58. 65.]
543 cord_individual_obj[indivial_i, :] = [14. 6. 15. 21.]
544 cord_individual_obj[indivial_i, :] = [15. 7. 62. 69.]
545 cord_individual_obj[indivial_i, :] = [16. 7. 36. 43.]
546 cord_individual_obj[indivial_i, :] = [17. 4. 42. 46.]
547 cord_individual_obj[indivial_i, :] = [18. 7. 60. 67.]
548 cord_individual_obj[indivial_i, :] = [19. 6. 43. 49.]
549 cord_individual_obj[indivial_i, :] = [20. 6. 37. 43.]
550 cord_individual_obj[indivial_i, :] = [21. 7. 35. 42.]
551 cord_individual_obj[indivial_i, :] = [22. 7. 71. 78.]
552 cord_individual_obj[indivial_i, :] = [23. 5. 77. 82.]
553 cord_individual_obj[indivial_i, :] = [24. 5. 48. 53.]
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. 10. 53. 63.]
561 cord_individual_obj[indivial_i, :] = [ 1. 7. 47. 54.]
562 cord_individual_obj[indivial_i, :] = [ 2. 7. 23. 30.]
563 cord_individual_obj[indivial_i, :] = [ 3. 5. 21. 26.]
564 cord_individual_obj[indivial_i, :] = [ 4. 5. 66. 71.]
565 cord_individual_obj[indivial_i, :] = [ 5. 4. 31. 35.]
566 cord_individual_obj[indivial_i, :] = [ 6. 5. 80. 85.]
567 cord_individual_obj[indivial_i, :] = [ 7. 6. 43. 49.]
568 cord_individual_obj[indivial_i, :] = [ 8. 5. 23. 28.]
569 cord_individual_obj[indivial_i, :] = [ 9. 6. 15. 21.]
570 cord_individual_obj[indivial_i, :] = [10. 4. 30. 34.]
571 cord_individual_obj[indivial_i, :] = [11. 4. 51. 55.]
572 cord_individual_obj[indivial_i, :] = [12. 4. 5. 9.]
573 cord_individual_obj[indivial_i, :] = [13. 6. 34. 40.]
574 cord_individual_obj[indivial_i, :] = [14. 5. 49. 54.]
575 cord_individual_obj[indivial_i, :] = [15. 5. 48. 53.]
576 cord_individual_obj[indivial_i, :] = [16. 7. 56. 63.]
577 cord_individual_obj[indivial_i, :] = [17. 6. 28. 34.]
578 cord_individual_obj[indivial_i, :] = [18. 7. 71. 78.]
579 cord_individual_obj[indivial_i, :] = [19. 6. 68. 74.]
580 cord_individual_obj[indivial_i, :] = [20. 6. 24. 30.]
581 cord_individual_obj[indivial_i, :] = [21. 4. 31. 35.]
582 cord_individual_obj[indivial_i, :] = [22. 6. 35. 41.]
583 cord_individual_obj[indivial_i, :] = [23. 7. 59. 66.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 7. 33. 40.]  
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. 7. 52. 59.]  
592     cord_individual_obj[indivial_i, :] = [ 1. 4. 12. 16.]  
593     cord_individual_obj[indivial_i, :] = [ 2. 6. 59. 65.]  
594     cord_individual_obj[indivial_i, :] = [ 3. 5. 12. 17.]  
595     cord_individual_obj[indivial_i, :] = [ 4. 5. 103. 108.]  
596     cord_individual_obj[indivial_i, :] = [ 5. 7. 53. 60.]  
597     cord_individual_obj[indivial_i, :] = [6. 4. 5. 9.]  
598     cord_individual_obj[indivial_i, :] = [ 7. 5. 103. 108.]  
599     cord_individual_obj[indivial_i, :] = [ 8. 6. 64. 70.]  
600     cord_individual_obj[indivial_i, :] = [ 9. 8. 60. 68.]  
601     cord_individual_obj[indivial_i, :] = [10. 6. 81. 87.]  
602     cord_individual_obj[indivial_i, :] = [11. 4. 47. 51.]  
603     cord_individual_obj[indivial_i, :] = [12. 4. 97. 101.]  
604     cord_individual_obj[indivial_i, :] = [13. 4. 41. 45.]  
605     cord_individual_obj[indivial_i, :] = [14. 7. 35. 42.]  
606     cord_individual_obj[indivial_i, :] = [15. 4. 38. 42.]  
607     cord_individual_obj[indivial_i, :] = [16. 7. 62. 69.]  
608     cord_individual_obj[indivial_i, :] = [17. 5. 66. 71.]  
609     cord_individual_obj[indivial_i, :] = [18. 5. 83. 88.]  
610     cord_individual_obj[indivial_i, :] = [19. 7. 38. 45.]  
611     cord_individual_obj[indivial_i, :] = [20. 7. 49. 56.]  
612     cord_individual_obj[indivial_i, :] = [21. 6. 75. 81.]  
613     cord_individual_obj[indivial_i, :] = [22. 7. 67. 74.]  
614     cord_individual_obj[indivial_i, :] = [23. 5. 15. 20.]  
615     cord_individual_obj[indivial_i, :] = [24. 7. 39. 46.]  
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. 4. 30. 34.]  
623     cord_individual_obj[indivial_i, :] = [ 1. 7. 57. 64.]  
624     cord_individual_obj[indivial_i, :] = [ 2. 6. 55. 61.]  
625     cord_individual_obj[indivial_i, :] = [ 3. 7. 63. 70.]  
626     cord_individual_obj[indivial_i, :] = [4. 4. 5. 9.]  
627     cord_individual_obj[indivial_i, :] = [ 5. 6. 67. 73.]  
628     cord_individual_obj[indivial_i, :] = [ 6. 5. 58. 63.]  
629     cord_individual_obj[indivial_i, :] = [ 7. 6. 56. 62.]  
630     cord_individual_obj[indivial_i, :] = [ 8. 5. 67. 72.]  
631     cord_individual_obj[indivial_i, :] = [ 9. 7. 51. 58.]  
632     cord_individual_obj[indivial_i, :] = [10. 5. 59. 64.]  
633     cord_individual_obj[indivial_i, :] = [11. 3. 30. 33.]  
634     cord_individual_obj[indivial_i, :] = [12. 5. 46. 51.]  
635     cord_individual_obj[indivial_i, :] = [13. 7. 65. 72.]  
636     cord_individual_obj[indivial_i, :] = [14. 6. 43. 49.]  
637     cord_individual_obj[indivial_i, :] = [15. 6. 34. 40.]  
638     cord_individual_obj[indivial_i, :] = [16. 7. 68. 75.]  
639     cord_individual_obj[indivial_i, :] = [17. 6. 67. 73.]  
640     cord_individual_obj[indivial_i, :] = [18. 6. 89. 95.]  
641     cord_individual_obj[indivial_i, :] = [19. 6. 74. 80.]  
642     cord_individual_obj[indivial_i, :] = [20. 4. 44. 48.]  
643     cord_individual_obj[indivial_i, :] = [21. 5. 42. 47.]  
644     cord_individual_obj[indivial_i, :] = [22. 4. 34. 38.]  
645     cord_individual_obj[indivial_i, :] = [23. 6. 14. 20.]  
646     cord_individual_obj[indivial_i, :] = [24. 6. 44. 50.]  
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. 4. 5. 9.]  
654     cord_individual_obj[indivial_i, :] = [ 1. 5. 11. 16.]  
655     cord_individual_obj[indivial_i, :] = [ 2. 4. 67. 71.]  
656     cord_individual_obj[indivial_i, :] = [ 3. 6. 88. 94.]  
657     cord_individual_obj[indivial_i, :] = [4. 5. 58. 63.]  
658     cord_individual_obj[indivial_i, :] = [ 5. 5. 16. 21.]  
659     cord_individual_obj[indivial_i, :] = [ 6. 4. 7. 11.]  
660     cord_individual_obj[indivial_i, :] = [ 7. 4. 6. 10.]  
661     cord_individual_obj[indivial_i, :] = [ 8. 6. 35. 41.]  
662     cord_individual_obj[indivial_i, :] = [ 9. 9. 86. 95.]  
663     cord_individual_obj[indivial_i, :] = [10. 4. 168. 172.]  
664     cord_individual_obj[indivial_i, :] = [11. 6. 10. 16.]  
665     cord_individual_obj[indivial_i, :] = [12. 3. 94. 97.]  
666     cord_individual_obj[indivial_i, :] = [13. 6. 89. 95.]  
667     cord_individual_obj[indivial_i, :] = [14. 5. 23. 28.]
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668 cord_individual_obj[indivial_i, :] = [15. 6. 38. 44.]
669 cord_individual_obj[indivial_i, :] = [16. 4. 27. 31.]
670 cord_individual_obj[indivial_i, :] = [17. 7. 45. 52.]
671 cord_individual_obj[indivial_i, :] = [18. 4. 5. 9.]
672 cord_individual_obj[indivial_i, :] = [19. 4. 37. 41.]
673 cord_individual_obj[indivial_i, :] = [20. 6. 83. 89.]
674 cord_individual_obj[indivial_i, :] = [21. 5. 31. 36.]
675 cord_individual_obj[indivial_i, :] = [22. 7. 61. 68.]
676 cord_individual_obj[indivial_i, :] = [23. 8. 45. 53.]
677 cord_individual_obj[indivial_i, :] = [24. 5. 49. 54.]
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 = 122.0
689 Proportion_of_area = 0.11296296296296296
690 BEST_CHROM =
691     berth: [ 4. 15.5 23.5 10. 11. 23.5 2. 14.5 6.5]
692     time: [0. 0. 0. 1. 1. 1. 1. 1.]
693     num_QC: [3. 4. 5. 4. 4. 3. 2. 2. 2.]
694 Objective function values and some other indicators:
695 Obj0 = 4.00          Obj1 = 5.00          Obj0 + Obj1 = 9.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 5.00
698 Total index of q during berthing: 483.00
699 Specific arrangement for each vessel:
700
    V_id: 0           li: 8.0           xi: 4.0           bow of i: 0.0           tail of i: 8.0           gama_i0: 0.0           gama_i1: 0.0
    .0                 gama_i1 + 1: 1.0   gama_i1 - gama_i0: 0.0   duration_time_i: 1.0
    60.0               work load gap_i: 0
701
    V_id: 1           li: 7.0           xi: 15.5           bow of i: 12.0           tail of i: 19.0           gama_i0: 0.0           gama_i1: 0
    .0                 gama_i1 + 1: 1.0   gama_i1 - gama_i0: 0.0   duration_time_i: 1.0
    .0                 load_i: 80.0       work load gap_i: 0
702
    V_id: 2           li: 9.0           xi: 23.5           bow of i: 19.0           tail of i: 28.0           gama_i0: 0.0           gama_i1: 0
    .0                 gama_i1 + 1: 1.0   gama_i1 - gama_i0: 0.0   duration_time_i: 1.0
    .0                 load_i: 80.0       work load gap_i: 0
703
    V_id: 3           li: 4.0           xi: 10.0           bow of i: 8.0           tail of i: 12.0           gama_i0: 0.0           gama_i1: 0
    .0                 gama_i1 + 1: 1.0   gama_i1 - gama_i0: 0.0   duration_time_i: 1.0
    .0                 load_i: 60.0       work load gap_i: 0
704
    V_id: 4           li: 4.0           xi: 11.0           bow of i: 9.0           tail of i: 13.0           gama_i0: 1.0           gama_i1: 2
    .0                 gama_i1 + 1: 3.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
    .0                 load_i: 160.0      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: 2
    .0                 gama_i1 + 1: 3.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
    .0                 load_i: 100.0      work load gap_i: 0
706
    V_id: 6           li: 4.0           xi: 2.0            bow of i: 0.0           tail of i: 4.0           gama_i0: 1.0           gama_i1: 4.0
    .0                 gama_i1 + 1: 5.0   gama_i1 - gama_i0: 3.0   duration_time_i: 4.0
    160.0              work load gap_i: 0
707
    V_id: 7           li: 3.0           xi: 14.5           bow of i: 13.0           tail of i: 16.0           gama_i0: 1.0           gama_i1: 4
    .0                 gama_i1 + 1: 5.0   gama_i1 - gama_i0: 3.0   duration_time_i: 4.0
    .0                 load_i: 140.0      work load gap_i: 0
708
    V_id: 8           li: 5.0           xi: 6.5            bow of i: 4.0           tail of i: 9.0           gama_i0: 1.0           gama_i1: 4.0
    .0                 gama_i1 + 1: 5.0   gama_i1 - gama_i0: 3.0   duration_time_i: 4.0
    160.0              work load gap_i: 0
709
710 Algorithm finished and the total CPU time: 259 s
711 End
712

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