

unknown

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80 cord_individual_obj[indivial_i,:] = [16. 5. 90. 95.]
81 cord_individual_obj[indivial_i,:] = [17. 3. 114. 117.]
82 cord_individual_obj[indivial_i,:] = [18. 6. 114. 120.]
83 cord_individual_obj[indivial_i,:] = [19. 5. 118. 123.]
84 cord_individual_obj[indivial_i,:] = [20. 4. 28. 32.]
85 cord_individual_obj[indivial_i,:] = [21. 4. 119. 123.]
86 cord_individual_obj[indivial_i,:] = [22. 5. 43. 48.]
87 cord_individual_obj[indivial_i,:] = [23. 5. 92. 97.]
88 cord_individual_obj[indivial_i,:] = [24. 5. 60. 65.]
89
90 min(cord_individual_obj[:,3]) = 22.0
91 historl_G_best_iter[iter, 3] = 22.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [0. 6. 87. 93.]
96 cord_individual_obj[indivial_i,:] = [1. 6. 16. 22.]
97 cord_individual_obj[indivial_i,:] = [2. 5. 118. 123.]
98 cord_individual_obj[indivial_i,:] = [3. 5. 69. 74.]
99 cord_individual_obj[indivial_i,:] = [4. 6. 122. 128.]
100 cord_individual_obj[indivial_i,:] = [5. 4. 50. 54.]
101 cord_individual_obj[indivial_i,:] = [6. 5. 67. 72.]
102 cord_individual_obj[indivial_i,:] = [7. 7. 70. 77.]
103 cord_individual_obj[indivial_i,:] = [8. 5. 98. 103.]
104 cord_individual_obj[indivial_i,:] = [9. 5. 63. 68.]
105 cord_individual_obj[indivial_i,:] = [10. 4. 40. 44.]
106 cord_individual_obj[indivial_i,:] = [11. 6. 34. 40.]
107 cord_individual_obj[indivial_i,:] = [12. 5. 92. 97.]
108 cord_individual_obj[indivial_i,:] = [13. 4. 54. 58.]
109 cord_individual_obj[indivial_i,:] = [14. 5. 113. 118.]
110 cord_individual_obj[indivial_i,:] = [15. 4. 71. 75.]
111 cord_individual_obj[indivial_i,:] = [16. 4. 18. 22.]
112 cord_individual_obj[indivial_i,:] = [17. 5. 60. 65.]
113 cord_individual_obj[indivial_i,:] = [18. 6. 44. 50.]
114 cord_individual_obj[indivial_i,:] = [19. 5. 121. 126.]
115 cord_individual_obj[indivial_i,:] = [20. 5. 111. 116.]
116 cord_individual_obj[indivial_i,:] = [21. 6. 63. 69.]
117 cord_individual_obj[indivial_i,:] = [22. 6. 90. 96.]
118 cord_individual_obj[indivial_i,:] = [23. 5. 76. 81.]
119 cord_individual_obj[indivial_i,:] = [24. 5. 63. 68.]
120
121 min(cord_individual_obj[:,3]) = 22.0
122 historl_G_best_iter[iter, 3] = 22.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [0. 5. 87. 92.]
127 cord_individual_obj[indivial_i,:] = [1. 5. 67. 72.]
128 cord_individual_obj[indivial_i,:] = [2. 5. 98. 103.]
129 cord_individual_obj[indivial_i,:] = [3. 5. 104. 109.]
130 cord_individual_obj[indivial_i,:] = [4. 6. 16. 22.]
131 cord_individual_obj[indivial_i,:] = [5. 5. 98. 103.]
132 cord_individual_obj[indivial_i,:] = [6. 5. 76. 81.]
133 cord_individual_obj[indivial_i,:] = [7. 5. 65. 70.]
134 cord_individual_obj[indivial_i,:] = [8. 4. 112. 116.]
135 cord_individual_obj[indivial_i,:] = [9. 5. 22. 27.]
136 cord_individual_obj[indivial_i,:] = [10. 5. 56. 61.]
137 cord_individual_obj[indivial_i,:] = [11. 6. 44. 50.]
138 cord_individual_obj[indivial_i,:] = [12. 5. 132. 137.]
139 cord_individual_obj[indivial_i,:] = [13. 5. 56. 61.]
140 cord_individual_obj[indivial_i,:] = [14. 5. 114. 119.]
141 cord_individual_obj[indivial_i,:] = [15. 5. 111. 116.]
142 cord_individual_obj[indivial_i,:] = [16. 6. 64. 70.]
143 cord_individual_obj[indivial_i,:] = [17. 5. 84. 89.]
144 cord_individual_obj[indivial_i,:] = [18. 4. 116. 120.]
145 cord_individual_obj[indivial_i,:] = [19. 5. 107. 112.]
146 cord_individual_obj[indivial_i,:] = [20. 4. 72. 76.]
147 cord_individual_obj[indivial_i,:] = [21. 4. 131. 135.]
148 cord_individual_obj[indivial_i,:] = [22. 5. 70. 75.]
149 cord_individual_obj[indivial_i,:] = [23. 4. 82. 86.]
150 cord_individual_obj[indivial_i,:] = [24. 5. 52. 57.]
151
152 min(cord_individual_obj[:,3]) = 22.0
153 historl_G_best_iter[iter, 3] = 22.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [0. 5. 46. 51.]
158 cord_individual_obj[indivial_i,:] = [1. 5. 95. 100.]
159 cord_individual_obj[indivial_i,:] = [2. 5. 51. 56.]
160 cord_individual_obj[indivial_i,:] = [3. 5. 13. 18.]
161 cord_individual_obj[indivial_i,:] = [4. 5. 116. 121.]
162 cord_individual_obj[indivial_i,:] = [5. 3. 151. 154.]
163 cord_individual_obj[indivial_i,:] = [6. 6. 125. 131.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 4. 65. 69.]
165 cord_individual_obj[indivial_i,:] = [ 8. 6. 48. 54.]
166 cord_individual_obj[indivial_i,:] = [ 9. 6. 16. 22.]
167 cord_individual_obj[indivial_i,:] = [10. 5. 28. 33.]
168 cord_individual_obj[indivial_i,:] = [11. 5. 20. 25.]
169 cord_individual_obj[indivial_i,:] = [12. 6. 16. 22.]
170 cord_individual_obj[indivial_i,:] = [13. 4. 43. 47.]
171 cord_individual_obj[indivial_i,:] = [14. 3. 27. 30.]
172 cord_individual_obj[indivial_i,:] = [15. 5. 70. 75.]
173 cord_individual_obj[indivial_i,:] = [16. 6. 16. 22.]
174 cord_individual_obj[indivial_i,:] = [17. 5. 59. 64.]
175 cord_individual_obj[indivial_i,:] = [18. 5. 64. 69.]
176 cord_individual_obj[indivial_i,:] = [19. 5. 117. 122.]
177 cord_individual_obj[indivial_i,:] = [20. 5. 39. 44.]
178 cord_individual_obj[indivial_i,:] = [21. 6. 37. 43.]
179 cord_individual_obj[indivial_i,:] = [22. 6. 92. 98.]
180 cord_individual_obj[indivial_i,:] = [23. 5. 40. 45.]
181 cord_individual_obj[indivial_i,:] = [24. 6. 55. 61.]
182
183 min(cord_individual_obj[:,3]) = 18.0
184 historl_G_best_iter[iter,3] = 18.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 5. 84. 89.]
189 cord_individual_obj[indivial_i,:] = [ 1. 5. 40. 45.]
190 cord_individual_obj[indivial_i,:] = [ 2. 4. 127. 131.]
191 cord_individual_obj[indivial_i,:] = [ 3. 5. 96. 101.]
192 cord_individual_obj[indivial_i,:] = [ 4. 5. 26. 31.]
193 cord_individual_obj[indivial_i,:] = [ 5. 5. 13. 18.]
194 cord_individual_obj[indivial_i,:] = [ 6. 6. 89. 95.]
195 cord_individual_obj[indivial_i,:] = [ 7. 4. 44. 48.]
196 cord_individual_obj[indivial_i,:] = [ 8. 7. 46. 53.]
197 cord_individual_obj[indivial_i,:] = [ 9. 8. 52. 60.]
198 cord_individual_obj[indivial_i,:] = [10. 4. 57. 61.]
199 cord_individual_obj[indivial_i,:] = [11. 6. 25. 31.]
200 cord_individual_obj[indivial_i,:] = [12. 8. 49. 57.]
201 cord_individual_obj[indivial_i,:] = [13. 5. 29. 34.]
202 cord_individual_obj[indivial_i,:] = [14. 5. 38. 43.]
203 cord_individual_obj[indivial_i,:] = [15. 5. 80. 85.]
204 cord_individual_obj[indivial_i,:] = [16. 5. 82. 87.]
205 cord_individual_obj[indivial_i,:] = [17. 5. 73. 78.]
206 cord_individual_obj[indivial_i,:] = [18. 6. 75. 81.]
207 cord_individual_obj[indivial_i,:] = [19. 6. 39. 45.]
208 cord_individual_obj[indivial_i,:] = [20. 5. 84. 89.]
209 cord_individual_obj[indivial_i,:] = [21. 4. 74. 78.]
210 cord_individual_obj[indivial_i,:] = [22. 6. 32. 38.]
211 cord_individual_obj[indivial_i,:] = [23. 7. 77. 84.]
212 cord_individual_obj[indivial_i,:] = [24. 6. 64. 70.]
213
214 min(cord_individual_obj[:,3]) = 18.0
215 historl_G_best_iter[iter,3] = 18.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 5. 11. 16.]
220 cord_individual_obj[indivial_i,:] = [ 1. 6. 90. 96.]
221 cord_individual_obj[indivial_i,:] = [ 2. 5. 13. 18.]
222 cord_individual_obj[indivial_i,:] = [ 3. 8. 26. 34.]
223 cord_individual_obj[indivial_i,:] = [ 4. 5. 25. 30.]
224 cord_individual_obj[indivial_i,:] = [ 5. 5. 124. 129.]
225 cord_individual_obj[indivial_i,:] = [ 6. 5. 133. 138.]
226 cord_individual_obj[indivial_i,:] = [ 7. 4. 94. 98.]
227 cord_individual_obj[indivial_i,:] = [ 8. 5. 15. 20.]
228 cord_individual_obj[indivial_i,:] = [ 9. 4. 69. 73.]
229 cord_individual_obj[indivial_i,:] = [10. 5. 7. 12.]
230 cord_individual_obj[indivial_i,:] = [11. 5. 33. 38.]
231 cord_individual_obj[indivial_i,:] = [12. 7. 19. 26.]
232 cord_individual_obj[indivial_i,:] = [13. 5. 29. 34.]
233 cord_individual_obj[indivial_i,:] = [14. 3. 32. 35.]
234 cord_individual_obj[indivial_i,:] = [15. 5. 41. 46.]
235 cord_individual_obj[indivial_i,:] = [16. 8. 66. 74.]
236 cord_individual_obj[indivial_i,:] = [17. 5. 78. 83.]
237 cord_individual_obj[indivial_i,:] = [18. 4. 83. 87.]
238 cord_individual_obj[indivial_i,:] = [19. 5. 72. 77.]
239 cord_individual_obj[indivial_i,:] = [20. 4. 181. 185.]
240 cord_individual_obj[indivial_i,:] = [21. 5. 133. 138.]
241 cord_individual_obj[indivial_i,:] = [22. 4. 92. 96.]
242 cord_individual_obj[indivial_i,:] = [23. 5. 95. 100.]
243 cord_individual_obj[indivial_i,:] = [24. 5. 65. 70.]
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. 5. 56. 61.]
251 cord_individual_obj[indivial_i, :] = [ 1. 4. 104. 108.]
252 cord_individual_obj[indivial_i, :] = [ 2. 5. 76. 81.]
253 cord_individual_obj[indivial_i, :] = [ 3. 4. 55. 59.]
254 cord_individual_obj[indivial_i, :] = [ 4. 5. 43. 48.]
255 cord_individual_obj[indivial_i, :] = [ 5. 6. 39. 45.]
256 cord_individual_obj[indivial_i, :] = [ 6. 6. 45. 51.]
257 cord_individual_obj[indivial_i, :] = [ 7. 5. 30. 35.]
258 cord_individual_obj[indivial_i, :] = [ 8. 6. 86. 92.]
259 cord_individual_obj[indivial_i, :] = [ 9. 6. 11. 17.]
260 cord_individual_obj[indivial_i, :] = [10. 6. 66. 72.]
261 cord_individual_obj[indivial_i, :] = [11. 7. 48. 55.]
262 cord_individual_obj[indivial_i, :] = [12. 5. 58. 63.]
263 cord_individual_obj[indivial_i, :] = [13. 6. 55. 61.]
264 cord_individual_obj[indivial_i, :] = [14. 6. 34. 40.]
265 cord_individual_obj[indivial_i, :] = [15. 6. 101. 107.]
266 cord_individual_obj[indivial_i, :] = [16. 6. 18. 24.]
267 cord_individual_obj[indivial_i, :] = [17. 6. 59. 65.]
268 cord_individual_obj[indivial_i, :] = [18. 5. 38. 43.]
269 cord_individual_obj[indivial_i, :] = [19. 4. 117. 121.]
270 cord_individual_obj[indivial_i, :] = [20. 5. 7. 12.]
271 cord_individual_obj[indivial_i, :] = [21. 4. 112. 116.]
272 cord_individual_obj[indivial_i, :] = [22. 3. 103. 106.]
273 cord_individual_obj[indivial_i, :] = [23. 5. 64. 69.]
274 cord_individual_obj[indivial_i, :] = [24. 5. 80. 85.]
275

276 min(cord_individual_obj[:, 3]) = 12.0
277 historl_G_best_iter[iter, 3] = 12.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0. 5. 40. 45.]
282 cord_individual_obj[indivial_i, :] = [ 1. 5. 41. 46.]
283 cord_individual_obj[indivial_i, :] = [ 2. 7. 48. 55.]
284 cord_individual_obj[indivial_i, :] = [ 3. 4. 41. 45.]
285 cord_individual_obj[indivial_i, :] = [ 4. 8. 76. 84.]
286 cord_individual_obj[indivial_i, :] = [ 5. 5. 39. 44.]
287 cord_individual_obj[indivial_i, :] = [ 6. 4. 77. 81.]
288 cord_individual_obj[indivial_i, :] = [ 7. 5. 72. 77.]
289 cord_individual_obj[indivial_i, :] = [ 8. 5. 38. 43.]
290 cord_individual_obj[indivial_i, :] = [ 9. 5. 37. 42.]
291 cord_individual_obj[indivial_i, :] = [10. 4. 59. 63.]
292 cord_individual_obj[indivial_i, :] = [11. 5. 67. 72.]
293 cord_individual_obj[indivial_i, :] = [12. 4. 48. 52.]
294 cord_individual_obj[indivial_i, :] = [13. 6. 26. 32.]
295 cord_individual_obj[indivial_i, :] = [14. 8. 52. 60.]
296 cord_individual_obj[indivial_i, :] = [15. 4. 34. 38.]
297 cord_individual_obj[indivial_i, :] = [16. 5. 38. 43.]
298 cord_individual_obj[indivial_i, :] = [17. 8. 60. 68.]
299 cord_individual_obj[indivial_i, :] = [18. 6. 66. 72.]
300 cord_individual_obj[indivial_i, :] = [19. 5. 7. 12.]
301 cord_individual_obj[indivial_i, :] = [20. 4. 77. 81.]
302 cord_individual_obj[indivial_i, :] = [21. 5. 40. 45.]
303 cord_individual_obj[indivial_i, :] = [22. 5. 61. 66.]
304 cord_individual_obj[indivial_i, :] = [23. 6. 25. 31.]
305 cord_individual_obj[indivial_i, :] = [24. 6. 85. 91.]
306

307 min(cord_individual_obj[:, 3]) = 12.0
308 historl_G_best_iter[iter, 3] = 12.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0. 5. 45. 50.]
313 cord_individual_obj[indivial_i, :] = [ 1. 6. 37. 43.]
314 cord_individual_obj[indivial_i, :] = [ 2. 6. 46. 52.]
315 cord_individual_obj[indivial_i, :] = [ 3. 6. 74. 80.]
316 cord_individual_obj[indivial_i, :] = [ 4. 6. 23. 29.]
317 cord_individual_obj[indivial_i, :] = [ 5. 7. 22. 29.]
318 cord_individual_obj[indivial_i, :] = [ 6. 4. 134. 138.]
319 cord_individual_obj[indivial_i, :] = [ 7. 6. 46. 52.]
320 cord_individual_obj[indivial_i, :] = [ 8. 5. 66. 71.]
321 cord_individual_obj[indivial_i, :] = [ 9. 5. 37. 42.]
322 cord_individual_obj[indivial_i, :] = [10. 6. 19. 25.]
323 cord_individual_obj[indivial_i, :] = [11. 6. 61. 67.]
324 cord_individual_obj[indivial_i, :] = [12. 8. 35. 43.]
325 cord_individual_obj[indivial_i, :] = [13. 5. 22. 27.]
326 cord_individual_obj[indivial_i, :] = [14. 6. 62. 68.]
327 cord_individual_obj[indivial_i, :] = [15. 5. 70. 75.]
328 cord_individual_obj[indivial_i, :] = [16. 5. 63. 68.]
329 cord_individual_obj[indivial_i, :] = [17. 6. 55. 61.]
330 cord_individual_obj[indivial_i, :] = [18. 5. 38. 43.]
331 cord_individual_obj[indivial_i, :] = [19. 5. 29. 34.]

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332 cord_individual_obj[indivial_i,:] = [ 20. 3. 115. 118.]
333 cord_individual_obj[indivial_i,:] = [21. 4. 84. 88.]
334 cord_individual_obj[indivial_i,:] = [22. 6. 36. 42.]
335 cord_individual_obj[indivial_i,:] = [23. 5. 70. 75.]
336 cord_individual_obj[indivial_i,:] = [24. 5. 7. 12.]
337
338 min(cord_individual_obj[:,3]) = 12.0
339 histol_G_best_iter[iter,3] = 12.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i,:] = [ 0. 4. 74. 78.]
344 cord_individual_obj[indivial_i,:] = [ 1. 5. 84. 89.]
345 cord_individual_obj[indivial_i,:] = [ 2. 5. 61. 66.]
346 cord_individual_obj[indivial_i,:] = [ 3. 5. 53. 58.]
347 cord_individual_obj[indivial_i,:] = [ 4. 3. 48. 51.]
348 cord_individual_obj[indivial_i,:] = [ 5. 8. 23. 31.]
349 cord_individual_obj[indivial_i,:] = [ 6. 5. 7. 12.]
350 cord_individual_obj[indivial_i,:] = [ 7. 5. 65. 70.]
351 cord_individual_obj[indivial_i,:] = [ 8. 4. 20. 24.]
352 cord_individual_obj[indivial_i,:] = [ 9. 5. 95. 100.]
353 cord_individual_obj[indivial_i,:] = [10. 4. 48. 52.]
354 cord_individual_obj[indivial_i,:] = [11. 6. 44. 50.]
355 cord_individual_obj[indivial_i,:] = [12. 5. 47. 52.]
356 cord_individual_obj[indivial_i,:] = [13. 5. 22. 27.]
357 cord_individual_obj[indivial_i,:] = [14. 5. 47. 52.]
358 cord_individual_obj[indivial_i,:] = [15. 5. 58. 63.]
359 cord_individual_obj[indivial_i,:] = [16. 5. 64. 69.]
360 cord_individual_obj[indivial_i,:] = [17. 4. 100. 104.]
361 cord_individual_obj[indivial_i,:] = [18. 5. 64. 69.]
362 cord_individual_obj[indivial_i,:] = [19. 4. 34. 38.]
363 cord_individual_obj[indivial_i,:] = [20. 6. 70. 76.]
364 cord_individual_obj[indivial_i,:] = [21. 5. 17. 22.]
365 cord_individual_obj[indivial_i,:] = [22. 6. 56. 62.]
366 cord_individual_obj[indivial_i,:] = [23. 7. 56. 63.]
367 cord_individual_obj[indivial_i,:] = [24. 5. 138. 143.]
368
369 min(cord_individual_obj[:,3]) = 12.0
370 histol_G_best_iter[iter,3] = 12.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i,:] = [ 0. 5. 40. 45.]
375 cord_individual_obj[indivial_i,:] = [ 1. 4. 101. 105.]
376 cord_individual_obj[indivial_i,:] = [ 2. 6. 46. 52.]
377 cord_individual_obj[indivial_i,:] = [ 3. 5. 44. 49.]
378 cord_individual_obj[indivial_i,:] = [ 4. 5. 36. 41.]
379 cord_individual_obj[indivial_i,:] = [ 5. 5. 86. 91.]
380 cord_individual_obj[indivial_i,:] = [ 6. 6. 132. 138.]
381 cord_individual_obj[indivial_i,:] = [ 7. 5. 97. 102.]
382 cord_individual_obj[indivial_i,:] = [ 8. 8. 52. 60.]
383 cord_individual_obj[indivial_i,:] = [ 9. 4. 41. 45.]
384 cord_individual_obj[indivial_i,:] = [10. 3. 31. 34.]
385 cord_individual_obj[indivial_i,:] = [11. 5. 46. 51.]
386 cord_individual_obj[indivial_i,:] = [12. 7. 25. 32.]
387 cord_individual_obj[indivial_i,:] = [13. 5. 39. 44.]
388 cord_individual_obj[indivial_i,:] = [14. 6. 96. 102.]
389 cord_individual_obj[indivial_i,:] = [15. 5. 46. 51.]
390 cord_individual_obj[indivial_i,:] = [16. 6. 82. 88.]
391 cord_individual_obj[indivial_i,:] = [17. 4. 74. 78.]
392 cord_individual_obj[indivial_i,:] = [18. 5. 56. 61.]
393 cord_individual_obj[indivial_i,:] = [19. 5. 37. 42.]
394 cord_individual_obj[indivial_i,:] = [20. 4. 128. 132.]
395 cord_individual_obj[indivial_i,:] = [21. 4. 90. 94.]
396 cord_individual_obj[indivial_i,:] = [22. 4. 40. 44.]
397 cord_individual_obj[indivial_i,:] = [23. 7. 96. 103.]
398 cord_individual_obj[indivial_i,:] = [24. 5. 7. 12.]
399
400 min(cord_individual_obj[:,3]) = 12.0
401 histol_G_best_iter[iter,3] = 12.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i,:] = [ 0. 5. 39. 44.]
406 cord_individual_obj[indivial_i,:] = [ 1. 5. 81. 86.]
407 cord_individual_obj[indivial_i,:] = [ 2. 4. 136. 140.]
408 cord_individual_obj[indivial_i,:] = [ 3. 6. 47. 53.]
409 cord_individual_obj[indivial_i,:] = [ 4. 5. 50. 55.]
410 cord_individual_obj[indivial_i,:] = [ 5. 5. 45. 50.]
411 cord_individual_obj[indivial_i,:] = [ 6. 5. 7. 12.]
412 cord_individual_obj[indivial_i,:] = [ 7. 5. 75. 80.]
413 cord_individual_obj[indivial_i,:] = [ 8. 6. 23. 29.]
414 cord_individual_obj[indivial_i,:] = [ 9. 5. 37. 42.]
415 cord_individual_obj[indivial_i,:] = [10. 6. 19. 25.]

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416 cord_individual_obj[indivial_i,:] = [11. 6. 23. 29.]
417 cord_individual_obj[indivial_i,:] = [12. 6. 62. 68.]
418 cord_individual_obj[indivial_i,:] = [13. 5. 24. 29.]
419 cord_individual_obj[indivial_i,:] = [14. 7. 100. 107.]
420 cord_individual_obj[indivial_i,:] = [15. 5. 64. 69.]
421 cord_individual_obj[indivial_i,:] = [16. 5. 31. 36.]
422 cord_individual_obj[indivial_i,:] = [17. 4. 74. 78.]
423 cord_individual_obj[indivial_i,:] = [18. 5. 59. 64.]
424 cord_individual_obj[indivial_i,:] = [19. 5. 45. 50.]
425 cord_individual_obj[indivial_i,:] = [20. 6. 129. 135.]
426 cord_individual_obj[indivial_i,:] = [21. 4. 90. 94.]
427 cord_individual_obj[indivial_i,:] = [22. 6. 51. 57.]
428 cord_individual_obj[indivial_i,:] = [23. 6. 76. 82.]
429 cord_individual_obj[indivial_i,:] = [24. 6. 96. 102.]
430
431 min(cord_individual_obj[:,3]) = 12.0
432 histol_G_best_iter[iter,3] = 12.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 5. 75. 80.]
437 cord_individual_obj[indivial_i,:] = [ 1. 4. 65. 69.]
438 cord_individual_obj[indivial_i,:] = [ 2. 5. 7. 12.]
439 cord_individual_obj[indivial_i,:] = [ 3. 6. 20. 26.]
440 cord_individual_obj[indivial_i,:] = [ 4. 6. 34. 40.]
441 cord_individual_obj[indivial_i,:] = [ 5. 5. 32. 37.]
442 cord_individual_obj[indivial_i,:] = [ 6. 6. 142. 148.]
443 cord_individual_obj[indivial_i,:] = [ 7. 4. 24. 28.]
444 cord_individual_obj[indivial_i,:] = [ 8. 8. 76. 84.]
445 cord_individual_obj[indivial_i,:] = [ 9. 5. 37. 42.]
446 cord_individual_obj[indivial_i,:] = [10. 5. 33. 38.]
447 cord_individual_obj[indivial_i,:] = [11. 5. 43. 48.]
448 cord_individual_obj[indivial_i,:] = [12. 6. 70. 76.]
449 cord_individual_obj[indivial_i,:] = [13. 5. 39. 44.]
450 cord_individual_obj[indivial_i,:] = [14. 8. 72. 80.]
451 cord_individual_obj[indivial_i,:] = [15. 4. 86. 90.]
452 cord_individual_obj[indivial_i,:] = [16. 6. 24. 30.]
453 cord_individual_obj[indivial_i,:] = [17. 4. 77. 81.]
454 cord_individual_obj[indivial_i,:] = [18. 5. 41. 46.]
455 cord_individual_obj[indivial_i,:] = [19. 5. 46. 51.]
456 cord_individual_obj[indivial_i,:] = [20. 5. 63. 68.]
457 cord_individual_obj[indivial_i,:] = [21. 5. 38. 43.]
458 cord_individual_obj[indivial_i,:] = [22. 5. 39. 44.]
459 cord_individual_obj[indivial_i,:] = [23. 5. 37. 42.]
460 cord_individual_obj[indivial_i,:] = [24. 4. 92. 96.]
461
462 min(cord_individual_obj[:,3]) = 12.0
463 histol_G_best_iter[iter,3] = 12.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 4. 87. 91.]
468 cord_individual_obj[indivial_i,:] = [ 1. 4. 153. 157.]
469 cord_individual_obj[indivial_i,:] = [ 2. 6. 46. 52.]
470 cord_individual_obj[indivial_i,:] = [ 3. 4. 49. 53.]
471 cord_individual_obj[indivial_i,:] = [ 4. 6. 23. 29.]
472 cord_individual_obj[indivial_i,:] = [ 5. 6. 68. 74.]
473 cord_individual_obj[indivial_i,:] = [ 6. 5. 7. 12.]
474 cord_individual_obj[indivial_i,:] = [ 7. 4. 102. 106.]
475 cord_individual_obj[indivial_i,:] = [ 8. 6. 22. 28.]
476 cord_individual_obj[indivial_i,:] = [ 9. 6. 8. 14.]
477 cord_individual_obj[indivial_i,:] = [10. 3. 58. 61.]
478 cord_individual_obj[indivial_i,:] = [11. 5. 40. 45.]
479 cord_individual_obj[indivial_i,:] = [12. 5. 48. 53.]
480 cord_individual_obj[indivial_i,:] = [13. 7. 42. 49.]
481 cord_individual_obj[indivial_i,:] = [14. 5. 47. 52.]
482 cord_individual_obj[indivial_i,:] = [15. 5. 48. 53.]
483 cord_individual_obj[indivial_i,:] = [16. 5. 11. 16.]
484 cord_individual_obj[indivial_i,:] = [17. 5. 33. 38.]
485 cord_individual_obj[indivial_i,:] = [18. 5. 7. 12.]
486 cord_individual_obj[indivial_i,:] = [19. 4. 61. 65.]
487 cord_individual_obj[indivial_i,:] = [20. 5. 50. 55.]
488 cord_individual_obj[indivial_i,:] = [21. 6. 30. 36.]
489 cord_individual_obj[indivial_i,:] = [22. 5. 62. 67.]
490 cord_individual_obj[indivial_i,:] = [23. 5. 39. 44.]
491 cord_individual_obj[indivial_i,:] = [24. 4. 47. 51.]
492
493 min(cord_individual_obj[:,3]) = 12.0
494 histol_G_best_iter[iter,3] = 12.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 5. 77. 82.]
499 cord_individual_obj[indivial_i,:] = [ 1. 5. 7. 12.]

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500 cord_individual_obj[indivial_i,:] = [ 2. 6. 47. 53.]
501 cord_individual_obj[indivial_i,:] = [ 3. 5. 19. 24.]
502 cord_individual_obj[indivial_i,:] = [ 4. 6. 102. 108.]
503 cord_individual_obj[indivial_i,:] = [ 5. 4. 70. 74.]
504 cord_individual_obj[indivial_i,:] = [ 6. 6. 142. 148.]
505 cord_individual_obj[indivial_i,:] = [ 7. 6. 54. 60.]
506 cord_individual_obj[indivial_i,:] = [ 8. 5. 42. 47.]
507 cord_individual_obj[indivial_i,:] = [ 9. 5. 37. 42.]
508 cord_individual_obj[indivial_i,:] = [10. 5. 74. 79.]
509 cord_individual_obj[indivial_i,:] = [11. 7. 88. 95.]
510 cord_individual_obj[indivial_i,:] = [12. 5. 38. 43.]
511 cord_individual_obj[indivial_i,:] = [13. 5. 45. 50.]
512 cord_individual_obj[indivial_i,:] = [14. 7. 66. 73.]
513 cord_individual_obj[indivial_i,:] = [15. 7. 82. 89.]
514 cord_individual_obj[indivial_i,:] = [16. 6. 24. 30.]
515 cord_individual_obj[indivial_i,:] = [17. 6. 68. 74.]
516 cord_individual_obj[indivial_i,:] = [18. 6. 41. 47.]
517 cord_individual_obj[indivial_i,:] = [19. 6. 25. 31.]
518 cord_individual_obj[indivial_i,:] = [20. 6. 31. 37.]
519 cord_individual_obj[indivial_i,:] = [21. 5. 77. 82.]
520 cord_individual_obj[indivial_i,:] = [22. 8. 41. 49.]
521 cord_individual_obj[indivial_i,:] = [23. 5. 39. 44.]
522 cord_individual_obj[indivial_i,:] = [24. 4. 48. 52.]
523
524 min(cord_individual_obj[:, 3]) = 12.0
525 histol_G_best_iter[iter, 3] = 12.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i,:] = [ 0. 4. 36. 40.]
530 cord_individual_obj[indivial_i,:] = [ 1. 5. 47. 52.]
531 cord_individual_obj[indivial_i,:] = [ 2. 6. 56. 62.]
532 cord_individual_obj[indivial_i,:] = [ 3. 5. 37. 42.]
533 cord_individual_obj[indivial_i,:] = [ 4. 6. 24. 30.]
534 cord_individual_obj[indivial_i,:] = [ 5. 6. 82. 88.]
535 cord_individual_obj[indivial_i,:] = [ 6. 5. 7. 12.]
536 cord_individual_obj[indivial_i,:] = [ 7. 4. 64. 68.]
537 cord_individual_obj[indivial_i,:] = [ 8. 4. 6. 10.]
538 cord_individual_obj[indivial_i,:] = [ 9. 6. 8. 14.]
539 cord_individual_obj[indivial_i,:] = [10. 6. 78. 84.]
540 cord_individual_obj[indivial_i,:] = [11. 5. 59. 64.]
541 cord_individual_obj[indivial_i,:] = [12. 5. 48. 53.]
542 cord_individual_obj[indivial_i,:] = [13. 5. 23. 28.]
543 cord_individual_obj[indivial_i,:] = [14. 5. 44. 49.]
544 cord_individual_obj[indivial_i,:] = [15. 4. 56. 60.]
545 cord_individual_obj[indivial_i,:] = [16. 5. 9. 14.]
546 cord_individual_obj[indivial_i,:] = [17. 6. 25. 31.]
547 cord_individual_obj[indivial_i,:] = [18. 6. 77. 83.]
548 cord_individual_obj[indivial_i,:] = [19. 4. 72. 76.]
549 cord_individual_obj[indivial_i,:] = [20. 5. 72. 77.]
550 cord_individual_obj[indivial_i,:] = [21. 5. 36. 41.]
551 cord_individual_obj[indivial_i,:] = [22. 5. 83. 88.]
552 cord_individual_obj[indivial_i,:] = [23. 5. 36. 41.]
553 cord_individual_obj[indivial_i,:] = [24. 5. 36. 41.]
554
555 min(cord_individual_obj[:, 3]) = 10.0
556 histol_G_best_iter[iter, 3] = 10.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i,:] = [ 0. 5. 112. 117.]
561 cord_individual_obj[indivial_i,:] = [ 1. 5. 39. 44.]
562 cord_individual_obj[indivial_i,:] = [ 2. 6. 77. 83.]
563 cord_individual_obj[indivial_i,:] = [ 3. 4. 64. 68.]
564 cord_individual_obj[indivial_i,:] = [ 4. 4. 80. 84.]
565 cord_individual_obj[indivial_i,:] = [ 5. 4. 6. 10.]
566 cord_individual_obj[indivial_i,:] = [ 6. 6. 67. 73.]
567 cord_individual_obj[indivial_i,:] = [ 7. 4. 102. 106.]
568 cord_individual_obj[indivial_i,:] = [ 8. 5. 49. 54.]
569 cord_individual_obj[indivial_i,:] = [ 9. 6. 51. 57.]
570 cord_individual_obj[indivial_i,:] = [10. 5. 58. 63.]
571 cord_individual_obj[indivial_i,:] = [11. 5. 48. 53.]
572 cord_individual_obj[indivial_i,:] = [12. 5. 33. 38.]
573 cord_individual_obj[indivial_i,:] = [13. 6. 49. 55.]
574 cord_individual_obj[indivial_i,:] = [14. 6. 102. 108.]
575 cord_individual_obj[indivial_i,:] = [15. 4. 36. 40.]
576 cord_individual_obj[indivial_i,:] = [16. 4. 48. 52.]
577 cord_individual_obj[indivial_i,:] = [17. 4. 48. 52.]
578 cord_individual_obj[indivial_i,:] = [18. 7. 68. 75.]
579 cord_individual_obj[indivial_i,:] = [19. 5. 34. 39.]
580 cord_individual_obj[indivial_i,:] = [20. 5. 61. 66.]
581 cord_individual_obj[indivial_i,:] = [21. 5. 151. 156.]
582 cord_individual_obj[indivial_i,:] = [22. 5. 74. 79.]
583 cord_individual_obj[indivial_i,:] = [23. 6. 100. 106.]

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584     cord_individual_obj[indivial_i, :] = [24. 6. 80. 86.]
585
586     min(cord_individual_obj[:, 3]) = 10.0
587     historl_G_best_iter[iter, 3] = 10.0
588 Begin iteration:
589
590 iter = 18
591     cord_individual_obj[indivial_i, :] = [ 0. 6. 88. 94.]
592     cord_individual_obj[indivial_i, :] = [ 1. 4. 70. 74.]
593     cord_individual_obj[indivial_i, :] = [ 2. 4. 128. 132.]
594     cord_individual_obj[indivial_i, :] = [ 3. 5. 77. 82.]
595     cord_individual_obj[indivial_i, :] = [ 4. 4. 66. 70.]
596     cord_individual_obj[indivial_i, :] = [ 5. 5. 66. 71.]
597     cord_individual_obj[indivial_i, :] = [ 6. 7. 92. 99.]
598     cord_individual_obj[indivial_i, :] = [ 7. 7. 37. 44.]
599     cord_individual_obj[indivial_i, :] = [ 8. 4. 111. 115.]
600     cord_individual_obj[indivial_i, :] = [ 9. 6. 74. 80.]
601     cord_individual_obj[indivial_i, :] = [10. 5. 71. 76.]
602     cord_individual_obj[indivial_i, :] = [11. 6. 23. 29.]
603     cord_individual_obj[indivial_i, :] = [12. 5. 95. 100.]
604     cord_individual_obj[indivial_i, :] = [13. 4. 61. 65.]
605     cord_individual_obj[indivial_i, :] = [14. 6. 25. 31.]
606     cord_individual_obj[indivial_i, :] = [15. 6. 77. 83.]
607     cord_individual_obj[indivial_i, :] = [16. 5. 39. 44.]
608     cord_individual_obj[indivial_i, :] = [17. 5. 48. 53.]
609     cord_individual_obj[indivial_i, :] = [18. 7. 76. 83.]
610     cord_individual_obj[indivial_i, :] = [19. 5. 8. 13.]
611     cord_individual_obj[indivial_i, :] = [20. 7. 80. 87.]
612     cord_individual_obj[indivial_i, :] = [21. 4. 6. 10.]
613     cord_individual_obj[indivial_i, :] = [22. 5. 67. 72.]
614     cord_individual_obj[indivial_i, :] = [23. 6. 26. 32.]
615     cord_individual_obj[indivial_i, :] = [24. 4. 77. 81.]
616
617     min(cord_individual_obj[:, 3]) = 10.0
618     historl_G_best_iter[iter, 3] = 10.0
619 Begin iteration:
620
621 iter = 19
622     cord_individual_obj[indivial_i, :] = [ 0. 5. 62. 67.]
623     cord_individual_obj[indivial_i, :] = [ 1. 4. 27. 31.]
624     cord_individual_obj[indivial_i, :] = [ 2. 4. 6. 10.]
625     cord_individual_obj[indivial_i, :] = [ 3. 4. 66. 70.]
626     cord_individual_obj[indivial_i, :] = [ 4. 6. 64. 70.]
627     cord_individual_obj[indivial_i, :] = [ 5. 6. 76. 82.]
628     cord_individual_obj[indivial_i, :] = [ 6. 6. 70. 76.]
629     cord_individual_obj[indivial_i, :] = [ 7. 4. 25. 29.]
630     cord_individual_obj[indivial_i, :] = [ 8. 7. 43. 50.]
631     cord_individual_obj[indivial_i, :] = [ 9. 5. 51. 56.]
632     cord_individual_obj[indivial_i, :] = [10. 6. 40. 46.]
633     cord_individual_obj[indivial_i, :] = [11. 4. 34. 38.]
634     cord_individual_obj[indivial_i, :] = [12. 6. 68. 74.]
635     cord_individual_obj[indivial_i, :] = [13. 4. 90. 94.]
636     cord_individual_obj[indivial_i, :] = [14. 5. 74. 79.]
637     cord_individual_obj[indivial_i, :] = [15. 4. 54. 58.]
638     cord_individual_obj[indivial_i, :] = [16. 4. 68. 72.]
639     cord_individual_obj[indivial_i, :] = [17. 6. 66. 72.]
640     cord_individual_obj[indivial_i, :] = [18. 8. 56. 64.]
641     cord_individual_obj[indivial_i, :] = [19. 4. 67. 71.]
642     cord_individual_obj[indivial_i, :] = [20. 4. 153. 157.]
643     cord_individual_obj[indivial_i, :] = [21. 7. 102. 109.]
644     cord_individual_obj[indivial_i, :] = [22. 4. 113. 117.]
645     cord_individual_obj[indivial_i, :] = [23. 5. 70. 75.]
646     cord_individual_obj[indivial_i, :] = [24. 4. 51. 55.]
647
648     min(cord_individual_obj[:, 3]) = 10.0
649     historl_G_best_iter[iter, 3] = 10.0
650 Begin iteration:
651
652 iter = 20
653     cord_individual_obj[indivial_i, :] = [ 0. 5. 70. 75.]
654     cord_individual_obj[indivial_i, :] = [ 1. 6. 8. 14.]
655     cord_individual_obj[indivial_i, :] = [ 2. 4. 55. 59.]
656     cord_individual_obj[indivial_i, :] = [ 3. 4. 24. 28.]
657     cord_individual_obj[indivial_i, :] = [ 4. 4. 93. 97.]
658     cord_individual_obj[indivial_i, :] = [ 5. 4. 86. 90.]
659     cord_individual_obj[indivial_i, :] = [ 6. 6. 27. 33.]
660     cord_individual_obj[indivial_i, :] = [ 7. 5. 60. 65.]
661     cord_individual_obj[indivial_i, :] = [ 8. 6. 48. 54.]
662     cord_individual_obj[indivial_i, :] = [ 9. 5. 85. 90.]
663     cord_individual_obj[indivial_i, :] = [10. 4. 63. 67.]
664     cord_individual_obj[indivial_i, :] = [11. 4. 24. 28.]
665     cord_individual_obj[indivial_i, :] = [12. 6. 23. 29.]
666     cord_individual_obj[indivial_i, :] = [13. 5. 49. 54.]
667     cord_individual_obj[indivial_i, :] = [14. 4. 14. 18.]

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668 cord_individual_obj[indivial_i, :] = [15. 5. 38. 43.]
669 cord_individual_obj[indivial_i, :] = [16. 4. 32. 36.]
670 cord_individual_obj[indivial_i, :] = [17. 5. 64. 69.]
671 cord_individual_obj[indivial_i, :] = [18. 6. 47. 53.]
672 cord_individual_obj[indivial_i, :] = [19. 5. 51. 56.]
673 cord_individual_obj[indivial_i, :] = [20. 4. 6. 10.]
674 cord_individual_obj[indivial_i, :] = [21. 6. 31. 37.]
675 cord_individual_obj[indivial_i, :] = [22. 6. 67. 73.]
676 cord_individual_obj[indivial_i, :] = [23. 4. 130. 134.]
677 cord_individual_obj[indivial_i, :] = [24. 3. 152. 155.]
678
679 min(cord_individual_obj[:, 3]) = 10.0
680 historl_G_best_iter[iter, 3] = 10.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 81.0
689 Proportion_of_area = 0.075
690 BEST_CHROM =
691 berth: [ 3. 15.5 12.5 8.5 24. 18.5 3. 23.5 1.5]
692 time: [0. 0. 0. 0. 3. 0. 1. 0. 2.]
693 num_QC: [4. 3. 3. 4. 3. 2. 5. 2. 2.]
694 Objective function values and some other indicators:
695 Obj0 = 4.00          Obj1 = 6.00          Obj0 + Obj1 = 10.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 6.00
698 Total index of q during berthing: 558.00
699 Specific arrangement for each vessel:
700 V_id: 0           li: 6.0           xi: 3.0           bow of i: 0.0           tail of i: 6.0           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 load_i:
701 V_id: 1           li: 3.0           xi: 15.5           bow of i: 14.0           tail of i: 17.0           gama_i0: 0.0           gama_i1: 1
    .           gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work
    .           load_i: 80.0           work load gap_i: 0
702 V_id: 2           li: 3.0           xi: 12.5           bow of i: 11.0           tail of i: 14.0           gama_i0: 0.0           gama_i1: 2
    .           gama_i1 + 1: 3.0           gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 160.0           work
    .           load_i: 160.0           work load gap_i: 0
703 V_id: 3           li: 5.0           xi: 8.5           bow of i: 6.0           tail of i: 11.0           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: 120.0           work load_i:
    .           load_i: 120.0           work load gap_i: 0
704 V_id: 4           li: 8.0           xi: 24.0           bow of i: 20.0           tail of i: 28.0           gama_i0: 3.0           gama_i1: 4
    .           gama_i1 + 1: 5.0           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
705 V_id: 5           li: 3.0           xi: 18.5           bow of i: 17.0           tail of i: 20.0           gama_i0: 0.0           gama_i1: 3
    .           gama_i1 + 1: 4.0           gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 160.0           work
    .           load_i: 160.0           work load gap_i: 0
706 V_id: 6           li: 6.0           xi: 3.0           bow of i: 0.0           tail of i: 6.0           gama_i0: 1.0           gama_i1: 1.0
    .           gama_i1 + 1: 2.0           gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 100.0           work load_i:
    .           load_i: 100.0           work load gap_i: 0
707 V_id: 7           li: 7.0           xi: 23.5           bow of i: 20.0           tail of i: 27.0           gama_i0: 0.0           gama_i1: 2
    .           gama_i1 + 1: 3.0           gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 100.0           work
    .           load_i: 100.0           work load gap_i: 0
708 V_id: 8           li: 3.0           xi: 1.5           bow of i: 0.0           tail of i: 3.0           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 load_i:
    .           load_i: 100.0           work load gap_i: 0
709
710 Algorithm finished and the total CPU time: 258 s
711 End
712

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