

unknown

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80     cord_individual_obj[indivial_i,:] = [ 16.  6. 104. 110.]
81     cord_individual_obj[indivial_i,:] = [17.  6. 91. 97.]
82     cord_individual_obj[indivial_i,:] = [ 18.  9. 97. 106.]
83     cord_individual_obj[indivial_i,:] = [19.  6. 66. 72.]
84     cord_individual_obj[indivial_i,:] = [ 20.  7. 109. 116.]
85     cord_individual_obj[indivial_i,:] = [ 21.  7. 132. 139.]
86     cord_individual_obj[indivial_i,:] = [22.  7. 54. 61.]
87     cord_individual_obj[indivial_i,:] = [23.  8. 58. 66.]
88     cord_individual_obj[indivial_i,:] = [ 24.  5. 128. 133.]
89
90 min(cord_individual_obj[:,3]) = 37.0
91 historl_G_best_iter[iter, 3] = 37.0
92 Begin iteration:
93
94 iter = 2
95     cord_individual_obj[indivial_i,:] = [  0.  8. 100. 108.]
96     cord_individual_obj[indivial_i,:] = [  1.  6. 52. 58.]
97     cord_individual_obj[indivial_i,:] = [  2.  7. 95. 102.]
98     cord_individual_obj[indivial_i,:] = [  3.  6. 58. 64.]
99     cord_individual_obj[indivial_i,:] = [  4.  7. 35. 42.]
100    cord_individual_obj[indivial_i,:] = [  5.  7. 50. 57.]
101    cord_individual_obj[indivial_i,:] = [  6.  7. 30. 37.]
102    cord_individual_obj[indivial_i,:] = [  7.  8. 64. 72.]
103    cord_individual_obj[indivial_i,:] = [  8.  9. 66. 75.]
104    cord_individual_obj[indivial_i,:] = [  9.  7. 73. 80.]
105    cord_individual_obj[indivial_i,:] = [10.  7. 35. 42.]
106    cord_individual_obj[indivial_i,:] = [11.  8. 102. 110.]
107    cord_individual_obj[indivial_i,:] = [12.  7. 76. 83.]
108    cord_individual_obj[indivial_i,:] = [13.  9. 85. 94.]
109    cord_individual_obj[indivial_i,:] = [14.  8. 111. 119.]
110    cord_individual_obj[indivial_i,:] = [15.  9. 76. 85.]
111    cord_individual_obj[indivial_i,:] = [16.  7. 66. 73.]
112    cord_individual_obj[indivial_i,:] = [17.  8. 128. 136.]
113    cord_individual_obj[indivial_i,:] = [18.  6. 47. 53.]
114    cord_individual_obj[indivial_i,:] = [19.  7. 122. 129.]
115    cord_individual_obj[indivial_i,:] = [20.  6. 81. 87.]
116    cord_individual_obj[indivial_i,:] = [21.  7. 100. 107.]
117    cord_individual_obj[indivial_i,:] = [22.  9. 80. 89.]
118    cord_individual_obj[indivial_i,:] = [23.  8. 68. 76.]
119    cord_individual_obj[indivial_i,:] = [24.  7. 97. 104.]
120
121 min(cord_individual_obj[:,3]) = 37.0
122 historl_G_best_iter[iter, 3] = 37.0
123 Begin iteration:
124
125 iter = 3
126     cord_individual_obj[indivial_i,:] = [  0. 11. 50. 61.]
127     cord_individual_obj[indivial_i,:] = [  1.  8. 103. 111.]
128     cord_individual_obj[indivial_i,:] = [  2.  6. 116. 122.]
129     cord_individual_obj[indivial_i,:] = [  3.  8. 71. 79.]
130     cord_individual_obj[indivial_i,:] = [  4.  7. 41. 48.]
131     cord_individual_obj[indivial_i,:] = [  5.  8. 140. 148.]
132     cord_individual_obj[indivial_i,:] = [  6. 10. 115. 125.]
133     cord_individual_obj[indivial_i,:] = [  7.  8. 39. 47.]
134     cord_individual_obj[indivial_i,:] = [  8.  8. 40. 48.]
135     cord_individual_obj[indivial_i,:] = [  9. 10. 87. 97.]
136     cord_individual_obj[indivial_i,:] = [10.  7. 29. 36.]
137     cord_individual_obj[indivial_i,:] = [11.  6. 52. 58.]
138     cord_individual_obj[indivial_i,:] = [12. 12. 71. 83.]
139     cord_individual_obj[indivial_i,:] = [13.  9. 74. 83.]
140     cord_individual_obj[indivial_i,:] = [14.  6. 67. 73.]
141     cord_individual_obj[indivial_i,:] = [15.  7. 59. 66.]
142     cord_individual_obj[indivial_i,:] = [16.  8. 79. 87.]
143     cord_individual_obj[indivial_i,:] = [17.  7. 30. 37.]
144     cord_individual_obj[indivial_i,:] = [18.  7. 72. 79.]
145     cord_individual_obj[indivial_i,:] = [19.  9. 74. 83.]
146     cord_individual_obj[indivial_i,:] = [20.  9. 55. 64.]
147     cord_individual_obj[indivial_i,:] = [21.  8. 121. 129.]
148     cord_individual_obj[indivial_i,:] = [22.  7. 73. 80.]
149     cord_individual_obj[indivial_i,:] = [23.  6. 87. 93.]
150     cord_individual_obj[indivial_i,:] = [24.  6. 47. 53.]
151
152 min(cord_individual_obj[:,3]) = 36.0
153 historl_G_best_iter[iter, 3] = 36.0
154 Begin iteration:
155
156 iter = 4
157     cord_individual_obj[indivial_i,:] = [  0.  9. 72. 81.]
158     cord_individual_obj[indivial_i,:] = [  1.  5. 44. 49.]
159     cord_individual_obj[indivial_i,:] = [  2.  6. 75. 81.]
160     cord_individual_obj[indivial_i,:] = [  3.  7. 90. 97.]
161     cord_individual_obj[indivial_i,:] = [  4.  6. 54. 60.]
162     cord_individual_obj[indivial_i,:] = [  5.  7. 29. 36.]
163     cord_individual_obj[indivial_i,:] = [  6. 10. 52. 62.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 6. 99. 105.]
165 cord_individual_obj[indivial_i,:] = [ 8. 7. 93. 100.]
166 cord_individual_obj[indivial_i,:] = [ 9. 9. 49. 58.]
167 cord_individual_obj[indivial_i,:] = [10. 6. 90. 96.]
168 cord_individual_obj[indivial_i,:] = [11. 6. 64. 70.]
169 cord_individual_obj[indivial_i,:] = [12. 7. 59. 66.]
170 cord_individual_obj[indivial_i,:] = [13. 8. 72. 80.]
171 cord_individual_obj[indivial_i,:] = [14. 8. 130. 138.]
172 cord_individual_obj[indivial_i,:] = [15. 6. 97. 103.]
173 cord_individual_obj[indivial_i,:] = [16. 7. 69. 76.]
174 cord_individual_obj[indivial_i,:] = [17. 6. 29. 35.]
175 cord_individual_obj[indivial_i,:] = [18. 9. 75. 84.]
176 cord_individual_obj[indivial_i,:] = [19. 6. 80. 86.]
177 cord_individual_obj[indivial_i,:] = [20. 7. 67. 74.]
178 cord_individual_obj[indivial_i,:] = [21. 7. 59. 66.]
179 cord_individual_obj[indivial_i,:] = [22. 5. 56. 61.]
180 cord_individual_obj[indivial_i,:] = [23. 7. 88. 95.]
181 cord_individual_obj[indivial_i,:] = [24. 5. 65. 70.]
182
183 min(cord_individual_obj[:,3]) = 35.0
184 historl_G_best_iter[iter,3] = 35.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 7. 104. 111.]
189 cord_individual_obj[indivial_i,:] = [ 1. 6. 81. 87.]
190 cord_individual_obj[indivial_i,:] = [ 2. 6. 56. 62.]
191 cord_individual_obj[indivial_i,:] = [ 3. 9. 111. 120.]
192 cord_individual_obj[indivial_i,:] = [ 4. 7. 59. 66.]
193 cord_individual_obj[indivial_i,:] = [ 5. 7. 73. 80.]
194 cord_individual_obj[indivial_i,:] = [ 6. 7. 62. 69.]
195 cord_individual_obj[indivial_i,:] = [ 7. 6. 73. 79.]
196 cord_individual_obj[indivial_i,:] = [ 8. 9. 102. 111.]
197 cord_individual_obj[indivial_i,:] = [ 9. 7. 53. 60.]
198 cord_individual_obj[indivial_i,:] = [10. 8. 53. 61.]
199 cord_individual_obj[indivial_i,:] = [11. 8. 74. 82.]
200 cord_individual_obj[indivial_i,:] = [12. 6. 117. 123.]
201 cord_individual_obj[indivial_i,:] = [13. 9. 55. 64.]
202 cord_individual_obj[indivial_i,:] = [14. 6. 29. 35.]
203 cord_individual_obj[indivial_i,:] = [15. 7. 111. 118.]
204 cord_individual_obj[indivial_i,:] = [16. 8. 91. 99.]
205 cord_individual_obj[indivial_i,:] = [17. 7. 93. 100.]
206 cord_individual_obj[indivial_i,:] = [18. 7. 59. 66.]
207 cord_individual_obj[indivial_i,:] = [19. 6. 81. 87.]
208 cord_individual_obj[indivial_i,:] = [20. 6. 81. 87.]
209 cord_individual_obj[indivial_i,:] = [21. 6. 66. 72.]
210 cord_individual_obj[indivial_i,:] = [22. 8. 35. 43.]
211 cord_individual_obj[indivial_i,:] = [23. 7. 61. 68.]
212 cord_individual_obj[indivial_i,:] = [24. 6. 59. 65.]
213
214 min(cord_individual_obj[:,3]) = 35.0
215 historl_G_best_iter[iter,3] = 35.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 9. 55. 64.]
220 cord_individual_obj[indivial_i,:] = [ 1. 9. 80. 89.]
221 cord_individual_obj[indivial_i,:] = [ 2. 7. 71. 78.]
222 cord_individual_obj[indivial_i,:] = [ 3. 8. 166. 174.]
223 cord_individual_obj[indivial_i,:] = [ 4. 6. 48. 54.]
224 cord_individual_obj[indivial_i,:] = [ 5. 6. 122. 128.]
225 cord_individual_obj[indivial_i,:] = [ 6. 6. 46. 52.]
226 cord_individual_obj[indivial_i,:] = [ 7. 7. 92. 99.]
227 cord_individual_obj[indivial_i,:] = [ 8. 6. 56. 62.]
228 cord_individual_obj[indivial_i,:] = [ 9. 9. 92. 101.]
229 cord_individual_obj[indivial_i,:] = [10. 7. 93. 100.]
230 cord_individual_obj[indivial_i,:] = [11. 9. 91. 100.]
231 cord_individual_obj[indivial_i,:] = [12. 6. 29. 35.]
232 cord_individual_obj[indivial_i,:] = [13. 6. 61. 67.]
233 cord_individual_obj[indivial_i,:] = [14. 8. 72. 80.]
234 cord_individual_obj[indivial_i,:] = [15. 6. 72. 78.]
235 cord_individual_obj[indivial_i,:] = [16. 9. 108. 117.]
236 cord_individual_obj[indivial_i,:] = [17. 8. 79. 87.]
237 cord_individual_obj[indivial_i,:] = [18. 5. 71. 76.]
238 cord_individual_obj[indivial_i,:] = [19. 9. 101. 110.]
239 cord_individual_obj[indivial_i,:] = [20. 6. 24. 30.]
240 cord_individual_obj[indivial_i,:] = [21. 7. 102. 109.]
241 cord_individual_obj[indivial_i,:] = [22. 7. 49. 56.]
242 cord_individual_obj[indivial_i,:] = [23. 8. 105. 113.]
243 cord_individual_obj[indivial_i,:] = [24. 7. 78. 85.]
244
245 min(cord_individual_obj[:,3]) = 30.0
246 historl_G_best_iter[iter,3] = 30.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0.  6. 44. 50.]
251 cord_individual_obj[indivial_i, :] = [ 1.  7. 28. 35.]
252 cord_individual_obj[indivial_i, :] = [ 2.  8. 102. 110.]
253 cord_individual_obj[indivial_i, :] = [ 3.  6. 24. 30.]
254 cord_individual_obj[indivial_i, :] = [ 4.  6. 78. 84.]
255 cord_individual_obj[indivial_i, :] = [ 5.  8. 86. 94.]
256 cord_individual_obj[indivial_i, :] = [ 6.  7. 87. 94.]
257 cord_individual_obj[indivial_i, :] = [ 7.  8. 86. 94.]
258 cord_individual_obj[indivial_i, :] = [ 8.  6. 62. 68.]
259 cord_individual_obj[indivial_i, :] = [ 9.  6. 119. 125.]
260 cord_individual_obj[indivial_i, :] = [10.  6. 46. 52.]
261 cord_individual_obj[indivial_i, :] = [11.  7. 60. 67.]
262 cord_individual_obj[indivial_i, :] = [12.  7. 28. 35.]
263 cord_individual_obj[indivial_i, :] = [13.  7. 80. 87.]
264 cord_individual_obj[indivial_i, :] = [14.  7. 76. 83.]
265 cord_individual_obj[indivial_i, :] = [15.  6. 79. 85.]
266 cord_individual_obj[indivial_i, :] = [16.  7. 82. 89.]
267 cord_individual_obj[indivial_i, :] = [17.  8. 80. 88.]
268 cord_individual_obj[indivial_i, :] = [18.  7. 103. 110.]
269 cord_individual_obj[indivial_i, :] = [19.  8. 128. 136.]
270 cord_individual_obj[indivial_i, :] = [20.  6. 37. 43.]
271 cord_individual_obj[indivial_i, :] = [21.  9. 120. 129.]
272 cord_individual_obj[indivial_i, :] = [22.  6. 49. 55.]
273 cord_individual_obj[indivial_i, :] = [23.  8. 82. 90.]
274 cord_individual_obj[indivial_i, :] = [24. 10. 52. 62.]
275

276 min(cord_individual_obj[:, 3]) = 30.0
277 historl_G_best_iter[iter, 3] = 30.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0.  6. 100. 106.]
282 cord_individual_obj[indivial_i, :] = [ 1.  6. 111. 117.]
283 cord_individual_obj[indivial_i, :] = [ 2.  9. 101. 110.]
284 cord_individual_obj[indivial_i, :] = [ 3.  7. 38. 45.]
285 cord_individual_obj[indivial_i, :] = [ 4.  6. 94. 100.]
286 cord_individual_obj[indivial_i, :] = [ 5.  7. 98. 105.]
287 cord_individual_obj[indivial_i, :] = [ 6.  6. 111. 117.]
288 cord_individual_obj[indivial_i, :] = [ 7.  6. 103. 109.]
289 cord_individual_obj[indivial_i, :] = [ 8.  7. 92. 99.]
290 cord_individual_obj[indivial_i, :] = [ 9.  7. 86. 93.]
291 cord_individual_obj[indivial_i, :] = [10.  6. 45. 51.]
292 cord_individual_obj[indivial_i, :] = [11.  7. 30. 37.]
293 cord_individual_obj[indivial_i, :] = [12.  7. 81. 88.]
294 cord_individual_obj[indivial_i, :] = [13.  7. 20. 27.]
295 cord_individual_obj[indivial_i, :] = [14.  7. 60. 67.]
296 cord_individual_obj[indivial_i, :] = [15.  6. 84. 90.]
297 cord_individual_obj[indivial_i, :] = [16.  5. 157. 162.]
298 cord_individual_obj[indivial_i, :] = [17.  6. 89. 95.]
299 cord_individual_obj[indivial_i, :] = [18.  6. 76. 82.]
300 cord_individual_obj[indivial_i, :] = [19.  6. 24. 30.]
301 cord_individual_obj[indivial_i, :] = [20.  6. 58. 64.]
302 cord_individual_obj[indivial_i, :] = [21.  7. 38. 45.]
303 cord_individual_obj[indivial_i, :] = [22.  7. 86. 93.]
304 cord_individual_obj[indivial_i, :] = [23.  7. 72. 79.]
305 cord_individual_obj[indivial_i, :] = [24.  6. 102. 108.]
306

307 min(cord_individual_obj[:, 3]) = 27.0
308 historl_G_best_iter[iter, 3] = 27.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0.  6. 86. 92.]
313 cord_individual_obj[indivial_i, :] = [ 1.  6. 73. 79.]
314 cord_individual_obj[indivial_i, :] = [ 2.  6. 63. 69.]
315 cord_individual_obj[indivial_i, :] = [ 3.  8. 109. 117.]
316 cord_individual_obj[indivial_i, :] = [ 4.  7. 42. 49.]
317 cord_individual_obj[indivial_i, :] = [ 5.  6. 127. 133.]
318 cord_individual_obj[indivial_i, :] = [ 6.  5. 77. 82.]
319 cord_individual_obj[indivial_i, :] = [ 7.  6. 47. 53.]
320 cord_individual_obj[indivial_i, :] = [ 8.  7. 154. 161.]
321 cord_individual_obj[indivial_i, :] = [ 9.  6. 66. 72.]
322 cord_individual_obj[indivial_i, :] = [10.  6. 59. 65.]
323 cord_individual_obj[indivial_i, :] = [11.  7. 46. 53.]
324 cord_individual_obj[indivial_i, :] = [12.  6. 123. 129.]
325 cord_individual_obj[indivial_i, :] = [13. 10. 73. 83.]
326 cord_individual_obj[indivial_i, :] = [14.  7. 91. 98.]
327 cord_individual_obj[indivial_i, :] = [15.  6. 101. 107.]
328 cord_individual_obj[indivial_i, :] = [16.  7. 20. 27.]
329 cord_individual_obj[indivial_i, :] = [17.  7. 140. 147.]
330 cord_individual_obj[indivial_i, :] = [18.  5. 98. 103.]
331 cord_individual_obj[indivial_i, :] = [19.  7. 85. 92.]

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332 cord_individual_obj[indivial_i, :] = [20. 9. 53. 62.]
333 cord_individual_obj[indivial_i, :] = [21. 6. 95. 101.]
334 cord_individual_obj[indivial_i, :] = [22. 8. 37. 45.]
335 cord_individual_obj[indivial_i, :] = [23. 6. 58. 64.]
336 cord_individual_obj[indivial_i, :] = [24. 6. 78. 84.]
337
338 min(cord_individual_obj[:, 3]) = 27.0
339 histol_G_best_iter[iter, 3] = 27.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i, :] = [ 0. 5. 126. 131.]
344 cord_individual_obj[indivial_i, :] = [ 1. 6. 78. 84.]
345 cord_individual_obj[indivial_i, :] = [ 2. 8. 105. 113.]
346 cord_individual_obj[indivial_i, :] = [ 3. 8. 37. 45.]
347 cord_individual_obj[indivial_i, :] = [ 4. 6. 113. 119.]
348 cord_individual_obj[indivial_i, :] = [ 5. 8. 124. 132.]
349 cord_individual_obj[indivial_i, :] = [ 6. 7. 70. 77.]
350 cord_individual_obj[indivial_i, :] = [ 7. 7. 66. 73.]
351 cord_individual_obj[indivial_i, :] = [ 8. 7. 20. 27.]
352 cord_individual_obj[indivial_i, :] = [ 9. 8. 39. 47.]
353 cord_individual_obj[indivial_i, :] = [10. 8. 90. 98.]
354 cord_individual_obj[indivial_i, :] = [11. 8. 115. 123.]
355 cord_individual_obj[indivial_i, :] = [12. 10. 93. 103.]
356 cord_individual_obj[indivial_i, :] = [13. 8. 78. 86.]
357 cord_individual_obj[indivial_i, :] = [14. 7. 98. 105.]
358 cord_individual_obj[indivial_i, :] = [15. 6. 75. 81.]
359 cord_individual_obj[indivial_i, :] = [16. 7. 28. 35.]
360 cord_individual_obj[indivial_i, :] = [17. 7. 136. 143.]
361 cord_individual_obj[indivial_i, :] = [18. 5. 181. 186.]
362 cord_individual_obj[indivial_i, :] = [19. 8. 116. 124.]
363 cord_individual_obj[indivial_i, :] = [20. 8. 89. 97.]
364 cord_individual_obj[indivial_i, :] = [21. 7. 71. 78.]
365 cord_individual_obj[indivial_i, :] = [22. 7. 68. 75.]
366 cord_individual_obj[indivial_i, :] = [23. 6. 67. 73.]
367 cord_individual_obj[indivial_i, :] = [24. 7. 156. 163.]
368
369 min(cord_individual_obj[:, 3]) = 27.0
370 histol_G_best_iter[iter, 3] = 27.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i, :] = [ 0. 7. 96. 103.]
375 cord_individual_obj[indivial_i, :] = [ 1. 9. 87. 96.]
376 cord_individual_obj[indivial_i, :] = [ 2. 6. 79. 85.]
377 cord_individual_obj[indivial_i, :] = [ 3. 8. 34. 42.]
378 cord_individual_obj[indivial_i, :] = [ 4. 7. 86. 93.]
379 cord_individual_obj[indivial_i, :] = [ 5. 6. 111. 117.]
380 cord_individual_obj[indivial_i, :] = [ 6. 7. 76. 83.]
381 cord_individual_obj[indivial_i, :] = [ 7. 7. 132. 139.]
382 cord_individual_obj[indivial_i, :] = [ 8. 8. 80. 88.]
383 cord_individual_obj[indivial_i, :] = [ 9. 6. 43. 49.]
384 cord_individual_obj[indivial_i, :] = [10. 5. 98. 103.]
385 cord_individual_obj[indivial_i, :] = [11. 7. 75. 82.]
386 cord_individual_obj[indivial_i, :] = [12. 6. 124. 130.]
387 cord_individual_obj[indivial_i, :] = [13. 9. 72. 81.]
388 cord_individual_obj[indivial_i, :] = [14. 8. 110. 118.]
389 cord_individual_obj[indivial_i, :] = [15. 5. 82. 87.]
390 cord_individual_obj[indivial_i, :] = [16. 6. 90. 96.]
391 cord_individual_obj[indivial_i, :] = [17. 6. 118. 124.]
392 cord_individual_obj[indivial_i, :] = [18. 7. 20. 27.]
393 cord_individual_obj[indivial_i, :] = [19. 7. 94. 101.]
394 cord_individual_obj[indivial_i, :] = [20. 8. 80. 88.]
395 cord_individual_obj[indivial_i, :] = [21. 7. 118. 125.]
396 cord_individual_obj[indivial_i, :] = [22. 7. 81. 88.]
397 cord_individual_obj[indivial_i, :] = [23. 7. 74. 81.]
398 cord_individual_obj[indivial_i, :] = [24. 6. 87. 93.]
399
400 min(cord_individual_obj[:, 3]) = 27.0
401 histol_G_best_iter[iter, 3] = 27.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i, :] = [ 0. 6. 58. 64.]
406 cord_individual_obj[indivial_i, :] = [ 1. 7. 68. 75.]
407 cord_individual_obj[indivial_i, :] = [ 2. 8. 113. 121.]
408 cord_individual_obj[indivial_i, :] = [ 3. 9. 137. 146.]
409 cord_individual_obj[indivial_i, :] = [ 4. 9. 107. 116.]
410 cord_individual_obj[indivial_i, :] = [ 5. 7. 79. 86.]
411 cord_individual_obj[indivial_i, :] = [ 6. 8. 76. 84.]
412 cord_individual_obj[indivial_i, :] = [ 7. 7. 20. 27.]
413 cord_individual_obj[indivial_i, :] = [ 8. 6. 85. 91.]
414 cord_individual_obj[indivial_i, :] = [ 9. 7. 31. 38.]
415 cord_individual_obj[indivial_i, :] = [10. 10. 62. 72.]

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416 cord_individual_obj[indivial_i,:] = [11. 6. 37. 43.]
417 cord_individual_obj[indivial_i,:] = [12. 9. 63. 72.]
418 cord_individual_obj[indivial_i,:] = [13. 8. 130. 138.]
419 cord_individual_obj[indivial_i,:] = [14. 6. 57. 63.]
420 cord_individual_obj[indivial_i,:] = [15. 7. 97. 104.]
421 cord_individual_obj[indivial_i,:] = [16. 7. 28. 35.]
422 cord_individual_obj[indivial_i,:] = [17. 6. 25. 31.]
423 cord_individual_obj[indivial_i,:] = [18. 6. 79. 85.]
424 cord_individual_obj[indivial_i,:] = [19. 7. 35. 42.]
425 cord_individual_obj[indivial_i,:] = [20. 6. 76. 82.]
426 cord_individual_obj[indivial_i,:] = [21. 8. 80. 88.]
427 cord_individual_obj[indivial_i,:] = [22. 11. 57. 68.]
428 cord_individual_obj[indivial_i,:] = [23. 7. 84. 91.]
429 cord_individual_obj[indivial_i,:] = [24. 9. 75. 84.]
430
431 min(cord_individual_obj[:,3]) = 27.0
432 histol_G_best_iter[iter,3] = 27.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 7. 30. 37.]
437 cord_individual_obj[indivial_i,:] = [ 1. 8. 77. 85.]
438 cord_individual_obj[indivial_i,:] = [ 2. 9. 105. 114.]
439 cord_individual_obj[indivial_i,:] = [ 3. 7. 20. 27.]
440 cord_individual_obj[indivial_i,:] = [ 4. 8. 117. 125.]
441 cord_individual_obj[indivial_i,:] = [ 5. 7. 62. 69.]
442 cord_individual_obj[indivial_i,:] = [ 6. 7. 46. 53.]
443 cord_individual_obj[indivial_i,:] = [ 7. 6. 58. 64.]
444 cord_individual_obj[indivial_i,:] = [ 8. 7. 65. 72.]
445 cord_individual_obj[indivial_i,:] = [ 9. 7. 69. 76.]
446 cord_individual_obj[indivial_i,:] = [10. 7. 106. 113.]
447 cord_individual_obj[indivial_i,:] = [11. 8. 84. 92.]
448 cord_individual_obj[indivial_i,:] = [12. 8. 71. 79.]
449 cord_individual_obj[indivial_i,:] = [13. 7. 38. 45.]
450 cord_individual_obj[indivial_i,:] = [14. 7. 81. 88.]
451 cord_individual_obj[indivial_i,:] = [15. 7. 111. 118.]
452 cord_individual_obj[indivial_i,:] = [16. 7. 78. 85.]
453 cord_individual_obj[indivial_i,:] = [17. 6. 27. 33.]
454 cord_individual_obj[indivial_i,:] = [18. 7. 119. 126.]
455 cord_individual_obj[indivial_i,:] = [19. 8. 50. 58.]
456 cord_individual_obj[indivial_i,:] = [20. 6. 124. 130.]
457 cord_individual_obj[indivial_i,:] = [21. 7. 115. 122.]
458 cord_individual_obj[indivial_i,:] = [22. 7. 49. 56.]
459 cord_individual_obj[indivial_i,:] = [23. 7. 106. 113.]
460 cord_individual_obj[indivial_i,:] = [24. 7. 70. 77.]
461
462 min(cord_individual_obj[:,3]) = 27.0
463 histol_G_best_iter[iter,3] = 27.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 7. 118. 125.]
468 cord_individual_obj[indivial_i,:] = [ 1. 7. 147. 154.]
469 cord_individual_obj[indivial_i,:] = [ 2. 8. 99. 107.]
470 cord_individual_obj[indivial_i,:] = [ 3. 8. 103. 111.]
471 cord_individual_obj[indivial_i,:] = [ 4. 6. 116. 122.]
472 cord_individual_obj[indivial_i,:] = [ 5. 6. 69. 75.]
473 cord_individual_obj[indivial_i,:] = [ 6. 8. 94. 102.]
474 cord_individual_obj[indivial_i,:] = [ 7. 9. 82. 91.]
475 cord_individual_obj[indivial_i,:] = [ 8. 7. 72. 79.]
476 cord_individual_obj[indivial_i,:] = [ 9. 8. 71. 79.]
477 cord_individual_obj[indivial_i,:] = [10. 7. 55. 62.]
478 cord_individual_obj[indivial_i,:] = [11. 8. 48. 56.]
479 cord_individual_obj[indivial_i,:] = [12. 7. 75. 82.]
480 cord_individual_obj[indivial_i,:] = [13. 8. 85. 93.]
481 cord_individual_obj[indivial_i,:] = [14. 7. 94. 101.]
482 cord_individual_obj[indivial_i,:] = [15. 7. 127. 134.]
483 cord_individual_obj[indivial_i,:] = [16. 7. 142. 149.]
484 cord_individual_obj[indivial_i,:] = [17. 8. 83. 91.]
485 cord_individual_obj[indivial_i,:] = [18. 6. 78. 84.]
486 cord_individual_obj[indivial_i,:] = [19. 9. 88. 97.]
487 cord_individual_obj[indivial_i,:] = [20. 7. 20. 27.]
488 cord_individual_obj[indivial_i,:] = [21. 7. 110. 117.]
489 cord_individual_obj[indivial_i,:] = [22. 7. 29. 36.]
490 cord_individual_obj[indivial_i,:] = [23. 8. 59. 67.]
491 cord_individual_obj[indivial_i,:] = [24. 11. 85. 96.]
492
493 min(cord_individual_obj[:,3]) = 27.0
494 histol_G_best_iter[iter,3] = 27.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 8. 140. 148.]
499 cord_individual_obj[indivial_i,:] = [ 1. 7. 20. 27.]

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500 cord_individual_obj[indivial_i,:] = [ 2. 6. 116. 122.]
501 cord_individual_obj[indivial_i,:] = [ 3. 8. 55. 63.]
502 cord_individual_obj[indivial_i,:] = [ 4. 7. 64. 71.]
503 cord_individual_obj[indivial_i,:] = [ 5. 8. 97. 105.]
504 cord_individual_obj[indivial_i,:] = [ 6. 4. 92. 96.]
505 cord_individual_obj[indivial_i,:] = [ 7. 6. 26. 32.]
506 cord_individual_obj[indivial_i,:] = [ 8. 7. 65. 72.]
507 cord_individual_obj[indivial_i,:] = [ 9. 9. 79. 88.]
508 cord_individual_obj[indivial_i,:] = [10. 6. 72. 78.]
509 cord_individual_obj[indivial_i,:] = [11. 8. 98. 106.]
510 cord_individual_obj[indivial_i,:] = [12. 6. 173. 179.]
511 cord_individual_obj[indivial_i,:] = [13. 9. 72. 81.]
512 cord_individual_obj[indivial_i,:] = [14. 7. 121. 128.]
513 cord_individual_obj[indivial_i,:] = [15. 5. 24. 29.]
514 cord_individual_obj[indivial_i,:] = [16. 7. 99. 106.]
515 cord_individual_obj[indivial_i,:] = [17. 6. 26. 32.]
516 cord_individual_obj[indivial_i,:] = [18. 8. 64. 72.]
517 cord_individual_obj[indivial_i,:] = [19. 9. 132. 141.]
518 cord_individual_obj[indivial_i,:] = [20. 7. 37. 44.]
519 cord_individual_obj[indivial_i,:] = [21. 7. 111. 118.]
520 cord_individual_obj[indivial_i,:] = [22. 8. 45. 53.]
521 cord_individual_obj[indivial_i,:] = [23. 6. 87. 93.]
522 cord_individual_obj[indivial_i,:] = [24. 7. 46. 53.]
523
524 min(cord_individual_obj[:, 3]) = 27.0
525 histol_G_best_iter[iter, 3] = 27.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i,:] = [ 0. 7. 120. 127.]
530 cord_individual_obj[indivial_i,:] = [ 1. 6. 82. 88.]
531 cord_individual_obj[indivial_i,:] = [ 2. 8. 104. 112.]
532 cord_individual_obj[indivial_i,:] = [ 3. 8. 33. 41.]
533 cord_individual_obj[indivial_i,:] = [ 4. 8. 74. 82.]
534 cord_individual_obj[indivial_i,:] = [ 5. 7. 40. 47.]
535 cord_individual_obj[indivial_i,:] = [ 6. 7. 79. 86.]
536 cord_individual_obj[indivial_i,:] = [ 7. 5. 110. 115.]
537 cord_individual_obj[indivial_i,:] = [ 8. 8. 111. 119.]
538 cord_individual_obj[indivial_i,:] = [ 9. 8. 54. 62.]
539 cord_individual_obj[indivial_i,:] = [10. 6. 34. 40.]
540 cord_individual_obj[indivial_i,:] = [11. 8. 66. 74.]
541 cord_individual_obj[indivial_i,:] = [12. 7. 20. 27.]
542 cord_individual_obj[indivial_i,:] = [13. 10. 93. 103.]
543 cord_individual_obj[indivial_i,:] = [14. 7. 23. 30.]
544 cord_individual_obj[indivial_i,:] = [15. 8. 98. 106.]
545 cord_individual_obj[indivial_i,:] = [16. 8. 31. 39.]
546 cord_individual_obj[indivial_i,:] = [17. 6. 90. 96.]
547 cord_individual_obj[indivial_i,:] = [18. 6. 56. 62.]
548 cord_individual_obj[indivial_i,:] = [19. 8. 57. 65.]
549 cord_individual_obj[indivial_i,:] = [20. 7. 36. 43.]
550 cord_individual_obj[indivial_i,:] = [21. 5. 94. 99.]
551 cord_individual_obj[indivial_i,:] = [22. 11. 91. 102.]
552 cord_individual_obj[indivial_i,:] = [23. 7. 131. 138.]
553 cord_individual_obj[indivial_i,:] = [24. 9. 79. 88.]
554
555 min(cord_individual_obj[:, 3]) = 27.0
556 histol_G_best_iter[iter, 3] = 27.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i,:] = [ 0. 8. 122. 130.]
561 cord_individual_obj[indivial_i,:] = [ 1. 8. 54. 62.]
562 cord_individual_obj[indivial_i,:] = [ 2. 8. 113. 121.]
563 cord_individual_obj[indivial_i,:] = [ 3. 10. 95. 105.]
564 cord_individual_obj[indivial_i,:] = [ 4. 6. 39. 45.]
565 cord_individual_obj[indivial_i,:] = [ 5. 6. 53. 59.]
566 cord_individual_obj[indivial_i,:] = [ 6. 8. 58. 66.]
567 cord_individual_obj[indivial_i,:] = [ 7. 7. 59. 66.]
568 cord_individual_obj[indivial_i,:] = [ 8. 6. 87. 93.]
569 cord_individual_obj[indivial_i,:] = [ 9. 10. 59. 69.]
570 cord_individual_obj[indivial_i,:] = [10. 8. 73. 81.]
571 cord_individual_obj[indivial_i,:] = [11. 7. 38. 45.]
572 cord_individual_obj[indivial_i,:] = [12. 9. 64. 73.]
573 cord_individual_obj[indivial_i,:] = [13. 7. 52. 59.]
574 cord_individual_obj[indivial_i,:] = [14. 6. 23. 29.]
575 cord_individual_obj[indivial_i,:] = [15. 5. 113. 118.]
576 cord_individual_obj[indivial_i,:] = [16. 7. 26. 33.]
577 cord_individual_obj[indivial_i,:] = [17. 5. 118. 123.]
578 cord_individual_obj[indivial_i,:] = [18. 6. 67. 73.]
579 cord_individual_obj[indivial_i,:] = [19. 10. 66. 76.]
580 cord_individual_obj[indivial_i,:] = [20. 8. 45. 53.]
581 cord_individual_obj[indivial_i,:] = [21. 4. 109. 113.]
582 cord_individual_obj[indivial_i,:] = [22. 8. 83. 91.]
583 cord_individual_obj[indivial_i,:] = [23. 7. 20. 27.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 6. 46. 52.]  
585  
586     min(cord_individual_obj[:, 3]) = 27.0  
587     historl_G_best_iter[iter, 3] = 27.0  
588 Begin iteration:  
589  
590 iter = 18  
591     cord_individual_obj[indivial_i, :] = [ 0. 7. 20. 27.]  
592     cord_individual_obj[indivial_i, :] = [ 1. 6. 65. 71.]  
593     cord_individual_obj[indivial_i, :] = [ 2. 8. 57. 65.]  
594     cord_individual_obj[indivial_i, :] = [ 3. 8. 89. 97.]  
595     cord_individual_obj[indivial_i, :] = [ 4. 7. 76. 83.]  
596     cord_individual_obj[indivial_i, :] = [ 5. 7. 92. 99.]  
597     cord_individual_obj[indivial_i, :] = [ 6. 7. 35. 42.]  
598     cord_individual_obj[indivial_i, :] = [ 7. 5. 132. 137.]  
599     cord_individual_obj[indivial_i, :] = [ 8. 5. 93. 98.]  
600     cord_individual_obj[indivial_i, :] = [ 9. 8. 55. 63.]  
601     cord_individual_obj[indivial_i, :] = [10. 7. 90. 97.]  
602     cord_individual_obj[indivial_i, :] = [11. 8. 63. 71.]  
603     cord_individual_obj[indivial_i, :] = [12. 6. 51. 57.]  
604     cord_individual_obj[indivial_i, :] = [13. 7. 86. 93.]  
605     cord_individual_obj[indivial_i, :] = [14. 7. 56. 63.]  
606     cord_individual_obj[indivial_i, :] = [15. 5. 108. 113.]  
607     cord_individual_obj[indivial_i, :] = [16. 8. 59. 67.]  
608     cord_individual_obj[indivial_i, :] = [17. 7. 68. 75.]  
609     cord_individual_obj[indivial_i, :] = [18. 8. 79. 87.]  
610     cord_individual_obj[indivial_i, :] = [19. 9. 80. 89.]  
611     cord_individual_obj[indivial_i, :] = [20. 7. 66. 73.]  
612     cord_individual_obj[indivial_i, :] = [21. 7. 128. 135.]  
613     cord_individual_obj[indivial_i, :] = [22. 6. 88. 94.]  
614     cord_individual_obj[indivial_i, :] = [23. 7. 56. 63.]  
615     cord_individual_obj[indivial_i, :] = [24. 8. 74. 82.]  
616  
617     min(cord_individual_obj[:, 3]) = 27.0  
618     historl_G_best_iter[iter, 3] = 27.0  
619 Begin iteration:  
620  
621 iter = 19  
622     cord_individual_obj[indivial_i, :] = [ 0. 6. 60. 66.]  
623     cord_individual_obj[indivial_i, :] = [ 1. 5. 117. 122.]  
624     cord_individual_obj[indivial_i, :] = [ 2. 8. 167. 175.]  
625     cord_individual_obj[indivial_i, :] = [ 3. 7. 49. 56.]  
626     cord_individual_obj[indivial_i, :] = [ 4. 9. 83. 92.]  
627     cord_individual_obj[indivial_i, :] = [ 5. 7. 145. 152.]  
628     cord_individual_obj[indivial_i, :] = [ 6. 6. 110. 116.]  
629     cord_individual_obj[indivial_i, :] = [ 7. 7. 20. 27.]  
630     cord_individual_obj[indivial_i, :] = [ 8. 6. 124. 130.]  
631     cord_individual_obj[indivial_i, :] = [ 9. 7. 33. 40.]  
632     cord_individual_obj[indivial_i, :] = [10. 8. 61. 69.]  
633     cord_individual_obj[indivial_i, :] = [11. 7. 76. 83.]  
634     cord_individual_obj[indivial_i, :] = [12. 6. 93. 99.]  
635     cord_individual_obj[indivial_i, :] = [13. 6. 35. 41.]  
636     cord_individual_obj[indivial_i, :] = [14. 6. 105. 111.]  
637     cord_individual_obj[indivial_i, :] = [15. 6. 116. 122.]  
638     cord_individual_obj[indivial_i, :] = [16. 8. 65. 73.]  
639     cord_individual_obj[indivial_i, :] = [17. 7. 89. 96.]  
640     cord_individual_obj[indivial_i, :] = [18. 6. 97. 103.]  
641     cord_individual_obj[indivial_i, :] = [19. 7. 161. 168.]  
642     cord_individual_obj[indivial_i, :] = [20. 8. 90. 98.]  
643     cord_individual_obj[indivial_i, :] = [21. 6. 92. 98.]  
644     cord_individual_obj[indivial_i, :] = [22. 10. 59. 69.]  
645     cord_individual_obj[indivial_i, :] = [23. 6. 70. 76.]  
646     cord_individual_obj[indivial_i, :] = [24. 6. 102. 108.]  
647  
648     min(cord_individual_obj[:, 3]) = 27.0  
649     historl_G_best_iter[iter, 3] = 27.0  
650 Begin iteration:  
651  
652 iter = 20  
653     cord_individual_obj[indivial_i, :] = [ 0. 10. 123. 133.]  
654     cord_individual_obj[indivial_i, :] = [ 1. 7. 136. 143.]  
655     cord_individual_obj[indivial_i, :] = [ 2. 7. 20. 27.]  
656     cord_individual_obj[indivial_i, :] = [ 3. 7. 73. 80.]  
657     cord_individual_obj[indivial_i, :] = [ 4. 6. 102. 108.]  
658     cord_individual_obj[indivial_i, :] = [ 5. 6. 113. 119.]  
659     cord_individual_obj[indivial_i, :] = [ 6. 8. 70. 78.]  
660     cord_individual_obj[indivial_i, :] = [ 7. 5. 72. 77.]  
661     cord_individual_obj[indivial_i, :] = [ 8. 8. 116. 124.]  
662     cord_individual_obj[indivial_i, :] = [ 9. 7. 103. 110.]  
663     cord_individual_obj[indivial_i, :] = [10. 9. 60. 69.]  
664     cord_individual_obj[indivial_i, :] = [11. 7. 22. 29.]  
665     cord_individual_obj[indivial_i, :] = [12. 8. 55. 63.]  
666     cord_individual_obj[indivial_i, :] = [13. 7. 94. 101.]  
667     cord_individual_obj[indivial_i, :] = [14. 7. 113. 120.]
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668 cord_individual_obj[indivial_i,:] = [ 15. 7. 127. 134.]
669 cord_individual_obj[indivial_i,:] = [ 16. 9. 106. 115.]
670 cord_individual_obj[indivial_i,:] = [ 17. 7. 102. 109.]
671 cord_individual_obj[indivial_i,:] = [ 18. 8. 138. 146.]
672 cord_individual_obj[indivial_i,:] = [ 19. 8. 119. 127.]
673 cord_individual_obj[indivial_i,:] = [20. 7. 80. 87.]
674 cord_individual_obj[indivial_i,:] = [21. 6. 141. 147.]
675 cord_individual_obj[indivial_i,:] = [22. 8. 101. 109.]
676 cord_individual_obj[indivial_i,:] = [23. 7. 125. 132.]
677 cord_individual_obj[indivial_i,:] = [24. 10. 80. 90.]
678
679 min(cord_individual_obj[:, 3]) = 27.0
680 historl_G_best_iter[iter, 3] = 27.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 156.0
689 Proportion_of_area = 0.14444444444444443
690 BEST_CHROM =
691 berth: [ 1.5 18.5 17.5 14. 21.5 6.5 13. 23.5 4.5 7.5 7.5 23.5]
692 time: [0. 4. 0. 0. 4. 1. 3. 2. 3. 3. 0. 0.]
693 num_QC: [2. 2. 3. 3. 3. 4. 3. 3. 2. 2. 8. 4.]
694 Objective function values and some other indicators:
695 Obj0 = 7.00 Obj1 = 20.00 Obj0 + Obj1 = 27.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 20.00
698 Total index of q during berthing: 876.00
699 Specific arrangement for each vessel:
700 V_id: 0 li: 3.0 xi: 1.5 bow of i: 0.0 tail of i: 3.0 gama_i0: 0.0 gama_i1: 3.0
    work load_i: demand_i: 140.0 work load_i:
701 V_id: 1 .0 li: 3.0 xi: 18.5 bow of i: 17.0 tail of i: 20.0 gama_i0: 4.0 gama_i1: 7
    work load_i: demand_i: 140.0 work
702 V_id: 2 .0 li: 3.0 xi: 17.5 bow of i: 16.0 tail of i: 19.0 gama_i0: 0.0 gama_i1: 1
    work load_i: demand_i: 120.0 work
703 V_id: 3 .0 li: 4.0 xi: 14.0 bow of i: 12.0 tail of i: 16.0 gama_i0: 0.0 gama_i1: 2
    work load_i: demand_i: 140.0 work
704 V_id: 4 .0 li: 3.0 xi: 21.5 bow of i: 20.0 tail of i: 23.0 gama_i0: 4.0 gama_i1: 5
    work load_i: demand_i: 120.0 work
705 V_id: 5 120.0 li: 7.0 xi: 6.5 bow of i: 3.0 tail of i: 10.0 gama_i0: 1.0 gama_i1: 2.0
    work load_i: demand_i: 120.0 work load_i:
706 V_id: 6 .0 li: 8.0 xi: 13.0 bow of i: 9.0 tail of i: 17.0 gama_i0: 3.0 gama_i1: 4
    work load_i: demand_i: 120.0 work
707 V_id: 7 .0 li: 9.0 xi: 23.5 bow of i: 19.0 tail of i: 28.0 gama_i0: 2.0 gama_i1: 3
    work load_i: demand_i: 80.0 work
708 V_id: 8 80.0 li: 3.0 xi: 4.5 bow of i: 3.0 tail of i: 6.0 gama_i0: 3.0 gama_i1: 4.0
    work load_i: demand_i: 80.0 work load_i:
709 V_id: 9 120.0 li: 3.0 xi: 7.5 bow of i: 6.0 tail of i: 9.0 gama_i0: 3.0 gama_i1: 5.0
    work load_i: demand_i: 120.0 work load_i:
710 V_id: 10 .0 li: 9.0 xi: 7.5 bow of i: 3.0 tail of i: 12.0 gama_i0: 0.0 gama_i1: 0
    work load_i: demand_i: 160.0 work
711 V_id: 11 : 1.0 li: 9.0 xi: 23.5 bow of i: 19.0 tail of i: 28.0 gama_i0: 0.0 gama_i1: 1
    work load_i: demand_i: 160.0 work
712
713 Algorithm finished and the total CPU time: 318 s
714 End
715

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