

unknown

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80 cord_individual_obj[indivial_i,:] = [16. 5. 29. 34.]
81 cord_individual_obj[indivial_i,:] = [17. 4. 15. 19.]
82 cord_individual_obj[indivial_i,:] = [18. 3. 33. 36.]
83 cord_individual_obj[indivial_i,:] = [19. 5. 20. 25.]
84 cord_individual_obj[indivial_i,:] = [20. 5. 16. 21.]
85 cord_individual_obj[indivial_i,:] = [21. 3. 8. 11.]
86 cord_individual_obj[indivial_i,:] = [22. 3. 72. 75.]
87 cord_individual_obj[indivial_i,:] = [23. 3. 17. 20.]
88 cord_individual_obj[indivial_i,:] = [24. 5. 30. 35.]
89
90 min(cord_individual_obj[:,3]) = 11.0
91 historl_G_best_iter[iter,3] = 11.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 5. 48. 53.]
96 cord_individual_obj[indivial_i,:] = [ 1. 6. 39. 45.]
97 cord_individual_obj[indivial_i,:] = [ 2. 5. 22. 27.]
98 cord_individual_obj[indivial_i,:] = [ 3. 5. 90. 95.]
99 cord_individual_obj[indivial_i,:] = [ 4. 4. 16. 20.]
100 cord_individual_obj[indivial_i,:] = [ 5. 4. 39. 43.]
101 cord_individual_obj[indivial_i,:] = [ 6. 6. 27. 33.]
102 cord_individual_obj[indivial_i,:] = [ 7. 4. 46. 50.]
103 cord_individual_obj[indivial_i,:] = [ 8. 5. 75. 80.]
104 cord_individual_obj[indivial_i,:] = [ 9. 5. 83. 88.]
105 cord_individual_obj[indivial_i,:] = [10. 5. 54. 59.]
106 cord_individual_obj[indivial_i,:] = [11. 6. 40. 46.]
107 cord_individual_obj[indivial_i,:] = [12. 4. 17. 21.]
108 cord_individual_obj[indivial_i,:] = [13. 4. 24. 28.]
109 cord_individual_obj[indivial_i,:] = [14. 3. 8. 11.]
110 cord_individual_obj[indivial_i,:] = [15. 5. 35. 40.]
111 cord_individual_obj[indivial_i,:] = [16. 5. 39. 44.]
112 cord_individual_obj[indivial_i,:] = [17. 6. 23. 29.]
113 cord_individual_obj[indivial_i,:] = [18. 5. 36. 41.]
114 cord_individual_obj[indivial_i,:] = [19. 5. 40. 45.]
115 cord_individual_obj[indivial_i,:] = [20. 5. 37. 42.]
116 cord_individual_obj[indivial_i,:] = [21. 5. 9. 14.]
117 cord_individual_obj[indivial_i,:] = [22. 5. 69. 74.]
118 cord_individual_obj[indivial_i,:] = [23. 5. 69. 74.]
119 cord_individual_obj[indivial_i,:] = [24. 5. 10. 15.]
120
121 min(cord_individual_obj[:,3]) = 11.0
122 historl_G_best_iter[iter,3] = 11.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 4. 18. 22.]
127 cord_individual_obj[indivial_i,:] = [ 1. 6. 53. 59.]
128 cord_individual_obj[indivial_i,:] = [ 2. 6. 43. 49.]
129 cord_individual_obj[indivial_i,:] = [ 3. 3. 8. 11.]
130 cord_individual_obj[indivial_i,:] = [ 4. 4. 25. 29.]
131 cord_individual_obj[indivial_i,:] = [ 5. 5. 17. 22.]
132 cord_individual_obj[indivial_i,:] = [ 6. 5. 41. 46.]
133 cord_individual_obj[indivial_i,:] = [ 7. 5. 58. 63.]
134 cord_individual_obj[indivial_i,:] = [ 8. 7. 29. 36.]
135 cord_individual_obj[indivial_i,:] = [ 9. 5. 28. 33.]
136 cord_individual_obj[indivial_i,:] = [10. 6. 14. 20.]
137 cord_individual_obj[indivial_i,:] = [11. 5. 18. 23.]
138 cord_individual_obj[indivial_i,:] = [12. 5. 10. 15.]
139 cord_individual_obj[indivial_i,:] = [13. 5. 43. 48.]
140 cord_individual_obj[indivial_i,:] = [14. 5. 92. 97.]
141 cord_individual_obj[indivial_i,:] = [15. 4. 33. 37.]
142 cord_individual_obj[indivial_i,:] = [16. 4. 26. 30.]
143 cord_individual_obj[indivial_i,:] = [17. 5. 10. 15.]
144 cord_individual_obj[indivial_i,:] = [18. 4. 19. 23.]
145 cord_individual_obj[indivial_i,:] = [19. 7. 41. 48.]
146 cord_individual_obj[indivial_i,:] = [20. 8. 42. 50.]
147 cord_individual_obj[indivial_i,:] = [21. 5. 24. 29.]
148 cord_individual_obj[indivial_i,:] = [22. 5. 46. 51.]
149 cord_individual_obj[indivial_i,:] = [23. 5. 19. 24.]
150 cord_individual_obj[indivial_i,:] = [24. 6. 18. 24.]
151
152 min(cord_individual_obj[:,3]) = 11.0
153 historl_G_best_iter[iter,3] = 11.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 5. 12. 17.]
158 cord_individual_obj[indivial_i,:] = [ 1. 7. 23. 30.]
159 cord_individual_obj[indivial_i,:] = [ 2. 5. 72. 77.]
160 cord_individual_obj[indivial_i,:] = [ 3. 3. 88. 91.]
161 cord_individual_obj[indivial_i,:] = [ 4. 4. 30. 34.]
162 cord_individual_obj[indivial_i,:] = [ 5. 4. 39. 43.]
163 cord_individual_obj[indivial_i,:] = [ 6. 5. 22. 27.]

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164 cord_individual_obj[indivial_i, :] = [ 7. 4. 67. 71.]
165 cord_individual_obj[indivial_i, :] = [ 8. 9. 51. 60.]
166 cord_individual_obj[indivial_i, :] = [ 9. 5. 60. 65.]
167 cord_individual_obj[indivial_i, :] = [10. 5. 69. 74.]
168 cord_individual_obj[indivial_i, :] = [11. 4. 15. 19.]
169 cord_individual_obj[indivial_i, :] = [12. 4. 62. 66.]
170 cord_individual_obj[indivial_i, :] = [13. 5. 29. 34.]
171 cord_individual_obj[indivial_i, :] = [14. 3. 8. 11.]
172 cord_individual_obj[indivial_i, :] = [15. 5. 43. 48.]
173 cord_individual_obj[indivial_i, :] = [16. 4. 60. 64.]
174 cord_individual_obj[indivial_i, :] = [17. 5. 10. 15.]
175 cord_individual_obj[indivial_i, :] = [18. 5. 43. 48.]
176 cord_individual_obj[indivial_i, :] = [19. 6. 21. 27.]
177 cord_individual_obj[indivial_i, :] = [20. 6. 48. 54.]
178 cord_individual_obj[indivial_i, :] = [21. 5. 16. 21.]
179 cord_individual_obj[indivial_i, :] = [22. 4. 56. 60.]
180 cord_individual_obj[indivial_i, :] = [23. 4. 76. 80.]
181 cord_individual_obj[indivial_i, :] = [24. 6. 68. 74.]
182
183 min(cord_individual_obj[:, 3]) = 11.0
184 historl_G_best_iter[iter, 3] = 11.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i, :] = [ 0. 3. 33. 36.]
189 cord_individual_obj[indivial_i, :] = [ 1. 8. 35. 43.]
190 cord_individual_obj[indivial_i, :] = [ 2. 5. 12. 17.]
191 cord_individual_obj[indivial_i, :] = [ 3. 3. 8. 11.]
192 cord_individual_obj[indivial_i, :] = [ 4. 4. 42. 46.]
193 cord_individual_obj[indivial_i, :] = [ 5. 6. 18. 24.]
194 cord_individual_obj[indivial_i, :] = [ 6. 5. 13. 18.]
195 cord_individual_obj[indivial_i, :] = [ 7. 6. 12. 18.]
196 cord_individual_obj[indivial_i, :] = [ 8. 6. 54. 60.]
197 cord_individual_obj[indivial_i, :] = [ 9. 4. 50. 54.]
198 cord_individual_obj[indivial_i, :] = [10. 4. 44. 48.]
199 cord_individual_obj[indivial_i, :] = [11. 6. 20. 26.]
200 cord_individual_obj[indivial_i, :] = [12. 5. 14. 19.]
201 cord_individual_obj[indivial_i, :] = [13. 5. 37. 42.]
202 cord_individual_obj[indivial_i, :] = [14. 5. 32. 37.]
203 cord_individual_obj[indivial_i, :] = [15. 4. 30. 34.]
204 cord_individual_obj[indivial_i, :] = [16. 5. 12. 17.]
205 cord_individual_obj[indivial_i, :] = [17. 6. 26. 32.]
206 cord_individual_obj[indivial_i, :] = [18. 3. 49. 52.]
207 cord_individual_obj[indivial_i, :] = [19. 6. 68. 74.]
208 cord_individual_obj[indivial_i, :] = [20. 8. 28. 36.]
209 cord_individual_obj[indivial_i, :] = [21. 6. 17. 23.]
210 cord_individual_obj[indivial_i, :] = [22. 3. 62. 65.]
211 cord_individual_obj[indivial_i, :] = [23. 3. 38. 41.]
212 cord_individual_obj[indivial_i, :] = [24. 6. 21. 27.]
213
214 min(cord_individual_obj[:, 3]) = 11.0
215 historl_G_best_iter[iter, 3] = 11.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i, :] = [ 0. 4. 17. 21.]
220 cord_individual_obj[indivial_i, :] = [ 1. 5. 14. 19.]
221 cord_individual_obj[indivial_i, :] = [ 2. 7. 13. 20.]
222 cord_individual_obj[indivial_i, :] = [ 3. 3. 88. 91.]
223 cord_individual_obj[indivial_i, :] = [ 4. 4. 42. 46.]
224 cord_individual_obj[indivial_i, :] = [ 5. 6. 53. 59.]
225 cord_individual_obj[indivial_i, :] = [ 6. 6. 13. 19.]
226 cord_individual_obj[indivial_i, :] = [ 7. 6. 32. 38.]
227 cord_individual_obj[indivial_i, :] = [ 8. 7. 39. 46.]
228 cord_individual_obj[indivial_i, :] = [ 9. 4. 68. 72.]
229 cord_individual_obj[indivial_i, :] = [10. 4. 43. 47.]
230 cord_individual_obj[indivial_i, :] = [11. 6. 20. 26.]
231 cord_individual_obj[indivial_i, :] = [12. 3. 21. 24.]
232 cord_individual_obj[indivial_i, :] = [13. 4. 41. 45.]
233 cord_individual_obj[indivial_i, :] = [14. 5. 24. 29.]
234 cord_individual_obj[indivial_i, :] = [15. 4. 24. 28.]
235 cord_individual_obj[indivial_i, :] = [16. 5. 11. 16.]
236 cord_individual_obj[indivial_i, :] = [17. 6. 38. 44.]
237 cord_individual_obj[indivial_i, :] = [18. 3. 39. 42.]
238 cord_individual_obj[indivial_i, :] = [19. 3. 8. 11.]
239 cord_individual_obj[indivial_i, :] = [20. 8. 28. 36.]
240 cord_individual_obj[indivial_i, :] = [21. 4. 17. 21.]
241 cord_individual_obj[indivial_i, :] = [22. 5. 53. 58.]
242 cord_individual_obj[indivial_i, :] = [23. 3. 38. 41.]
243 cord_individual_obj[indivial_i, :] = [24. 6. 11. 17.]
244
245 min(cord_individual_obj[:, 3]) = 11.0
246 historl_G_best_iter[iter, 3] = 11.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0.  4. 48. 52.]
251 cord_individual_obj[indivial_i, :] = [ 1.  6. 16. 22.]
252 cord_individual_obj[indivial_i, :] = [ 2.  6. 13. 19.]
253 cord_individual_obj[indivial_i, :] = [ 3.  3. 8. 11.]
254 cord_individual_obj[indivial_i, :] = [ 4.  4. 29. 33.]
255 cord_individual_obj[indivial_i, :] = [ 5.  6. 53. 59.]
256 cord_individual_obj[indivial_i, :] = [ 6.  5. 12. 17.]
257 cord_individual_obj[indivial_i, :] = [ 7.  4. 40. 44.]
258 cord_individual_obj[indivial_i, :] = [ 8.  4. 51. 55.]
259 cord_individual_obj[indivial_i, :] = [ 9.  4. 68. 72.]
260 cord_individual_obj[indivial_i, :] = [10.  4. 34. 38.]
261 cord_individual_obj[indivial_i, :] = [11.  6. 20. 26.]
262 cord_individual_obj[indivial_i, :] = [12.  5. 13. 18.]
263 cord_individual_obj[indivial_i, :] = [13.  4. 41. 45.]
264 cord_individual_obj[indivial_i, :] = [14.  5. 48. 53.]
265 cord_individual_obj[indivial_i, :] = [15.  4. 30. 34.]
266 cord_individual_obj[indivial_i, :] = [16.  4. 27. 31.]
267 cord_individual_obj[indivial_i, :] = [17.  5. 25. 30.]
268 cord_individual_obj[indivial_i, :] = [18.  3. 49. 52.]
269 cord_individual_obj[indivial_i, :] = [19.  6. 82. 88.]
270 cord_individual_obj[indivial_i, :] = [20.  5. 16. 21.]
271 cord_individual_obj[indivial_i, :] = [21.  5. 9. 14.]
272 cord_individual_obj[indivial_i, :] = [22.  5. 53. 58.]
273 cord_individual_obj[indivial_i, :] = [23.  4. 16. 20.]
274 cord_individual_obj[indivial_i, :] = [24.  6. 17. 23.]
275

276 min(cord_individual_obj[:, 3]) = 11.0
277 historl_G_best_iter[iter, 3] = 11.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0.  4. 48. 52.]
282 cord_individual_obj[indivial_i, :] = [ 1.  6. 14. 20.]
283 cord_individual_obj[indivial_i, :] = [ 2.  6. 13. 19.]
284 cord_individual_obj[indivial_i, :] = [ 3.  3. 88. 91.]
285 cord_individual_obj[indivial_i, :] = [ 4.  3. 36. 39.]
286 cord_individual_obj[indivial_i, :] = [ 5.  4. 53. 57.]
287 cord_individual_obj[indivial_i, :] = [ 6.  5. 12. 17.]
288 cord_individual_obj[indivial_i, :] = [ 7.  4. 40. 44.]
289 cord_individual_obj[indivial_i, :] = [ 8.  4. 41. 45.]
290 cord_individual_obj[indivial_i, :] = [ 9.  4. 68. 72.]
291 cord_individual_obj[indivial_i, :] = [10.  4. 32. 36.]
292 cord_individual_obj[indivial_i, :] = [11.  6. 20. 26.]
293 cord_individual_obj[indivial_i, :] = [12.  5. 14. 19.]
294 cord_individual_obj[indivial_i, :] = [13.  4. 45. 49.]
295 cord_individual_obj[indivial_i, :] = [14.  5. 92. 97.]
296 cord_individual_obj[indivial_i, :] = [15.  4. 30. 34.]
297 cord_individual_obj[indivial_i, :] = [16.  4. 27. 31.]
298 cord_individual_obj[indivial_i, :] = [17.  6. 28. 34.]
299 cord_individual_obj[indivial_i, :] = [18.  3. 46. 49.]
300 cord_individual_obj[indivial_i, :] = [19.  3. 8. 11.]
301 cord_individual_obj[indivial_i, :] = [20.  6. 12. 18.]
302 cord_individual_obj[indivial_i, :] = [21.  5. 64. 69.]
303 cord_individual_obj[indivial_i, :] = [22.  5. 53. 58.]
304 cord_individual_obj[indivial_i, :] = [23.  5. 68. 73.]
305 cord_individual_obj[indivial_i, :] = [24.  4. 27. 31.]
306

307 min(cord_individual_obj[:, 3]) = 11.0
308 historl_G_best_iter[iter, 3] = 11.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0.  4. 48. 52.]
313 cord_individual_obj[indivial_i, :] = [ 1.  6. 14. 20.]
314 cord_individual_obj[indivial_i, :] = [ 2.  7. 15. 22.]
315 cord_individual_obj[indivial_i, :] = [ 3.  3. 88. 91.]
316 cord_individual_obj[indivial_i, :] = [ 4.  4. 29. 33.]
317 cord_individual_obj[indivial_i, :] = [ 5.  6. 18. 24.]
318 cord_individual_obj[indivial_i, :] = [ 6.  6. 12. 18.]
319 cord_individual_obj[indivial_i, :] = [ 7.  5. 42. 47.]
320 cord_individual_obj[indivial_i, :] = [ 8.  7. 21. 28.]
321 cord_individual_obj[indivial_i, :] = [ 9.  4. 68. 72.]
322 cord_individual_obj[indivial_i, :] = [10.  4. 44. 48.]
323 cord_individual_obj[indivial_i, :] = [11.  6. 20. 26.]
324 cord_individual_obj[indivial_i, :] = [12.  5. 13. 18.]
325 cord_individual_obj[indivial_i, :] = [13.  4. 41. 45.]
326 cord_individual_obj[indivial_i, :] = [14.  3. 8. 11.]
327 cord_individual_obj[indivial_i, :] = [15.  4. 30. 34.]
328 cord_individual_obj[indivial_i, :] = [16.  3. 27. 30.]
329 cord_individual_obj[indivial_i, :] = [17.  5. 25. 30.]
330 cord_individual_obj[indivial_i, :] = [18.  5. 44. 49.]
331 cord_individual_obj[indivial_i, :] = [19.  6. 42. 48.]

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332 cord_individual_obj[indivial_i,:] = [20. 5. 16. 21.]
333 cord_individual_obj[indivial_i,:] = [21. 5. 9. 14.]
334 cord_individual_obj[indivial_i,:] = [22. 5. 53. 58.]
335 cord_individual_obj[indivial_i,:] = [23. 4. 16. 20.]
336 cord_individual_obj[indivial_i,:] = [24. 6. 19. 25.]
337
338 min(cord_individual_obj[:,3]) = 11.0
339 histol_G_best_iter[iter,3] = 11.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i,:] = [ 0. 4. 64. 68.]
344 cord_individual_obj[indivial_i,:] = [ 1. 5. 119. 124.]
345 cord_individual_obj[indivial_i,:] = [ 2. 5. 28. 33.]
346 cord_individual_obj[indivial_i,:] = [ 3. 3. 8. 11.]
347 cord_individual_obj[indivial_i,:] = [ 4. 3. 38. 41.]
348 cord_individual_obj[indivial_i,:] = [ 5. 4. 39. 43.]
349 cord_individual_obj[indivial_i,:] = [ 6. 6. 17. 23.]
350 cord_individual_obj[indivial_i,:] = [ 7. 4. 41. 45.]
351 cord_individual_obj[indivial_i,:] = [ 8. 8. 88. 96.]
352 cord_individual_obj[indivial_i,:] = [ 9. 5. 67. 72.]
353 cord_individual_obj[indivial_i,:] = [10. 6. 19. 25.]
354 cord_individual_obj[indivial_i,:] = [11. 6. 40. 46.]
355 cord_individual_obj[indivial_i,:] = [12. 6. 73. 79.]
356 cord_individual_obj[indivial_i,:] = [13. 6. 41. 47.]
357 cord_individual_obj[indivial_i,:] = [14. 5. 32. 37.]
358 cord_individual_obj[indivial_i,:] = [15. 5. 49. 54.]
359 cord_individual_obj[indivial_i,:] = [16. 5. 42. 47.]
360 cord_individual_obj[indivial_i,:] = [17. 5. 35. 40.]
361 cord_individual_obj[indivial_i,:] = [18. 5. 41. 46.]
362 cord_individual_obj[indivial_i,:] = [19. 6. 10. 16.]
363 cord_individual_obj[indivial_i,:] = [20. 7. 34. 41.]
364 cord_individual_obj[indivial_i,:] = [21. 3. 66. 69.]
365 cord_individual_obj[indivial_i,:] = [22. 5. 72. 77.]
366 cord_individual_obj[indivial_i,:] = [23. 4. 80. 84.]
367 cord_individual_obj[indivial_i,:] = [24. 5. 12. 17.]
368
369 min(cord_individual_obj[:,3]) = 11.0
370 histol_G_best_iter[iter,3] = 11.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i,:] = [ 0. 4. 11. 15.]
375 cord_individual_obj[indivial_i,:] = [ 1. 3. 8. 11.]
376 cord_individual_obj[indivial_i,:] = [ 2. 6. 13. 19.]
377 cord_individual_obj[indivial_i,:] = [ 3. 3. 88. 91.]
378 cord_individual_obj[indivial_i,:] = [ 4. 3. 36. 39.]
379 cord_individual_obj[indivial_i,:] = [ 5. 5. 18. 23.]
380 cord_individual_obj[indivial_i,:] = [ 6. 5. 12. 17.]
381 cord_individual_obj[indivial_i,:] = [ 7. 4. 40. 44.]
382 cord_individual_obj[indivial_i,:] = [ 8. 4. 41. 45.]
383 cord_individual_obj[indivial_i,:] = [ 9. 4. 68. 72.]
384 cord_individual_obj[indivial_i,:] = [10. 4. 34. 38.]
385 cord_individual_obj[indivial_i,:] = [11. 6. 20. 26.]
386 cord_individual_obj[indivial_i,:] = [12. 5. 13. 18.]
387 cord_individual_obj[indivial_i,:] = [13. 4. 41. 45.]
388 cord_individual_obj[indivial_i,:] = [14. 5. 32. 37.]
389 cord_individual_obj[indivial_i,:] = [15. 4. 30. 34.]
390 cord_individual_obj[indivial_i,:] = [16. 3. 27. 30.]
391 cord_individual_obj[indivial_i,:] = [17. 6. 28. 34.]
392 cord_individual_obj[indivial_i,:] = [18. 3. 54. 57.]
393 cord_individual_obj[indivial_i,:] = [19. 6. 51. 57.]
394 cord_individual_obj[indivial_i,:] = [20. 5. 16. 21.]
395 cord_individual_obj[indivial_i,:] = [21. 5. 9. 14.]
396 cord_individual_obj[indivial_i,:] = [22. 5. 53. 58.]
397 cord_individual_obj[indivial_i,:] = [23. 3. 38. 41.]
398 cord_individual_obj[indivial_i,:] = [24. 6. 17. 23.]
399
400 min(cord_individual_obj[:,3]) = 11.0
401 histol_G_best_iter[iter,3] = 11.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i,:] = [ 0. 4. 10. 14.]
406 cord_individual_obj[indivial_i,:] = [ 1. 6. 14. 20.]
407 cord_individual_obj[indivial_i,:] = [ 2. 6. 11. 17.]
408 cord_individual_obj[indivial_i,:] = [ 3. 3. 8. 11.]
409 cord_individual_obj[indivial_i,:] = [ 4. 3. 40. 43.]
410 cord_individual_obj[indivial_i,:] = [ 5. 5. 39. 44.]
411 cord_individual_obj[indivial_i,:] = [ 6. 5. 13. 18.]
412 cord_individual_obj[indivial_i,:] = [ 7. 4. 26. 30.]
413 cord_individual_obj[indivial_i,:] = [ 8. 8. 87. 95.]
414 cord_individual_obj[indivial_i,:] = [ 9. 4. 50. 54.]
415 cord_individual_obj[indivial_i,:] = [10. 4. 46. 50.]

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416 cord_individual_obj[indivial_i,:] = [11. 6. 40. 46.]
417 cord_individual_obj[indivial_i,:] = [12. 5. 62. 67.]
418 cord_individual_obj[indivial_i,:] = [13. 5. 29. 34.]
419 cord_individual_obj[indivial_i,:] = [14. 5. 39. 44.]
420 cord_individual_obj[indivial_i,:] = [15. 5. 58. 63.]
421 cord_individual_obj[indivial_i,:] = [16. 6. 44. 50.]
422 cord_individual_obj[indivial_i,:] = [17. 5. 29. 34.]
423 cord_individual_obj[indivial_i,:] = [18. 4. 57. 61.]
424 cord_individual_obj[indivial_i,:] = [19. 6. 20. 26.]
425 cord_individual_obj[indivial_i,:] = [20. 5. 32. 37.]
426 cord_individual_obj[indivial_i,:] = [21. 6. 41. 47.]
427 cord_individual_obj[indivial_i,:] = [22. 6. 44. 50.]
428 cord_individual_obj[indivial_i,:] = [23. 4. 111. 115.]
429 cord_individual_obj[indivial_i,:] = [24. 4. 24. 28.]
430
431 min(cord_individual_obj[:,3]) = 11.0
432 histol_G_best_iter[iter,3] = 11.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 5. 37. 42.]
437 cord_individual_obj[indivial_i,:] = [ 1. 7. 33. 40.]
438 cord_individual_obj[indivial_i,:] = [ 2. 6. 13. 19.]
439 cord_individual_obj[indivial_i,:] = [ 3. 3. 88. 91.]
440 cord_individual_obj[indivial_i,:] = [ 4. 3. 46. 49.]
441 cord_individual_obj[indivial_i,:] = [ 5. 6. 17. 23.]
442 cord_individual_obj[indivial_i,:] = [ 6. 6. 13. 19.]
443 cord_individual_obj[indivial_i,:] = [ 7. 6. 32. 38.]
444 cord_individual_obj[indivial_i,:] = [ 8. 7. 15. 22.]
445 cord_individual_obj[indivial_i,:] = [ 9. 4. 50. 54.]
446 cord_individual_obj[indivial_i,:] = [10. 4. 44. 48.]
447 cord_individual_obj[indivial_i,:] = [11. 6. 20. 26.]
448 cord_individual_obj[indivial_i,:] = [12. 5. 9. 14.]
449 cord_individual_obj[indivial_i,:] = [13. 4. 11. 15.]
450 cord_individual_obj[indivial_i,:] = [14. 5. 58. 63.]
451 cord_individual_obj[indivial_i,:] = [15. 5. 34. 39.]
452 cord_individual_obj[indivial_i,:] = [16. 6. 14. 20.]
453 cord_individual_obj[indivial_i,:] = [17. 6. 40. 46.]
454 cord_individual_obj[indivial_i,:] = [18. 4. 35. 39.]
455 cord_individual_obj[indivial_i,:] = [19. 6. 60. 66.]
456 cord_individual_obj[indivial_i,:] = [20. 8. 28. 36.]
457 cord_individual_obj[indivial_i,:] = [21. 7. 12. 19.]
458 cord_individual_obj[indivial_i,:] = [22. 4. 63. 67.]
459 cord_individual_obj[indivial_i,:] = [23. 3. 8. 11.]
460 cord_individual_obj[indivial_i,:] = [24. 5. 8. 13.]
461
462 min(cord_individual_obj[:,3]) = 11.0
463 histol_G_best_iter[iter,3] = 11.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 4. 35. 39.]
468 cord_individual_obj[indivial_i,:] = [ 1. 5. 11. 16.]
469 cord_individual_obj[indivial_i,:] = [ 2. 6. 12. 18.]
470 cord_individual_obj[indivial_i,:] = [ 3. 3. 8. 11.]
471 cord_individual_obj[indivial_i,:] = [ 4. 4. 35. 39.]
472 cord_individual_obj[indivial_i,:] = [ 5. 4. 53. 57.]
473 cord_individual_obj[indivial_i,:] = [ 6. 4. 17. 21.]
474 cord_individual_obj[indivial_i,:] = [ 7. 4. 58. 62.]
475 cord_individual_obj[indivial_i,:] = [ 8. 7. 21. 28.]
476 cord_individual_obj[indivial_i,:] = [ 9. 4. 50. 54.]
477 cord_individual_obj[indivial_i,:] = [10. 4. 34. 38.]
478 cord_individual_obj[indivial_i,:] = [11. 5. 30. 35.]
479 cord_individual_obj[indivial_i,:] = [12. 5. 15. 20.]
480 cord_individual_obj[indivial_i,:] = [13. 4. 37. 41.]
481 cord_individual_obj[indivial_i,:] = [14. 5. 48. 53.]
482 cord_individual_obj[indivial_i,:] = [15. 4. 30. 34.]
483 cord_individual_obj[indivial_i,:] = [16. 3. 27. 30.]
484 cord_individual_obj[indivial_i,:] = [17. 4. 46. 50.]
485 cord_individual_obj[indivial_i,:] = [18. 5. 44. 49.]
486 cord_individual_obj[indivial_i,:] = [19. 5. 89. 94.]
487 cord_individual_obj[indivial_i,:] = [20. 5. 16. 21.]
488 cord_individual_obj[indivial_i,:] = [21. 5. 64. 69.]
489 cord_individual_obj[indivial_i,:] = [22. 5. 28. 33.]
490 cord_individual_obj[indivial_i,:] = [23. 3. 55. 58.]
491 cord_individual_obj[indivial_i,:] = [24. 4. 19. 23.]
492
493 min(cord_individual_obj[:,3]) = 11.0
494 histol_G_best_iter[iter,3] = 11.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 4. 29. 33.]
499 cord_individual_obj[indivial_i,:] = [ 1. 6. 86. 92.]

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500 cord_individual_obj[indivial_i,:] = [ 2. 5. 11. 16.]
501 cord_individual_obj[indivial_i,:] = [ 3. 3. 88. 91.]
502 cord_individual_obj[indivial_i,:] = [ 4. 3. 36. 39.]
503 cord_individual_obj[indivial_i,:] = [ 5. 5. 10. 15.]
504 cord_individual_obj[indivial_i,:] = [ 6. 6. 17. 23.]
505 cord_individual_obj[indivial_i,:] = [ 7. 4. 54. 58.]
506 cord_individual_obj[indivial_i,:] = [ 8. 7. 87. 94.]
507 cord_individual_obj[indivial_i,:] = [ 9. 4. 50. 54.]
508 cord_individual_obj[indivial_i,:] = [10. 4. 24. 28.]
509 cord_individual_obj[indivial_i,:] = [11. 4. 64. 68.]
510 cord_individual_obj[indivial_i,:] = [12. 5. 62. 67.]
511 cord_individual_obj[indivial_i,:] = [13. 5. 21. 26.]
512 cord_individual_obj[indivial_i,:] = [14. 4. 11. 15.]
513 cord_individual_obj[indivial_i,:] = [15. 4. 19. 23.]
514 cord_individual_obj[indivial_i,:] = [16. 5. 79. 84.]
515 cord_individual_obj[indivial_i,:] = [17. 5. 29. 34.]
516 cord_individual_obj[indivial_i,:] = [18. 4. 67. 71.]
517 cord_individual_obj[indivial_i,:] = [19. 3. 8. 11.]
518 cord_individual_obj[indivial_i,:] = [20. 5. 47. 52.]
519 cord_individual_obj[indivial_i,:] = [21. 6. 40. 46.]
520 cord_individual_obj[indivial_i,:] = [22. 5. 15. 20.]
521 cord_individual_obj[indivial_i,:] = [23. 3. 55. 58.]
522 cord_individual_obj[indivial_i,:] = [24. 6. 58. 64.]
523
524 min(cord_individual_obj[:,3]) = 11.0
525 histol_G_best_iter[iter,3] = 11.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i,:] = [ 0. 5. 69. 74.]
530 cord_individual_obj[indivial_i,:] = [ 1. 4. 12. 16.]
531 cord_individual_obj[indivial_i,:] = [ 2. 8. 16. 24.]
532 cord_individual_obj[indivial_i,:] = [ 3. 4. 58. 62.]
533 cord_individual_obj[indivial_i,:] = [ 4. 4. 47. 51.]
534 cord_individual_obj[indivial_i,:] = [ 5. 5. 39. 44.]
535 cord_individual_obj[indivial_i,:] = [ 6. 5. 12. 17.]
536 cord_individual_obj[indivial_i,:] = [ 7. 6. 14. 20.]
537 cord_individual_obj[indivial_i,:] = [ 8. 3. 8. 11.]
538 cord_individual_obj[indivial_i,:] = [ 9. 4. 50. 54.]
539 cord_individual_obj[indivial_i,:] = [10. 4. 25. 29.]
540 cord_individual_obj[indivial_i,:] = [11. 5. 18. 23.]
541 cord_individual_obj[indivial_i,:] = [12. 5. 9. 14.]
542 cord_individual_obj[indivial_i,:] = [13. 5. 43. 48.]
543 cord_individual_obj[indivial_i,:] = [14. 5. 12. 17.]
544 cord_individual_obj[indivial_i,:] = [15. 5. 20. 25.]
545 cord_individual_obj[indivial_i,:] = [16. 5. 43. 48.]
546 cord_individual_obj[indivial_i,:] = [17. 4. 37. 41.]
547 cord_individual_obj[indivial_i,:] = [18. 3. 39. 42.]
548 cord_individual_obj[indivial_i,:] = [19. 6. 42. 48.]
549 cord_individual_obj[indivial_i,:] = [20. 6. 15. 21.]
550 cord_individual_obj[indivial_i,:] = [21. 5. 11. 16.]
551 cord_individual_obj[indivial_i,:] = [22. 4. 39. 43.]
552 cord_individual_obj[indivial_i,:] = [23. 4. 16. 20.]
553 cord_individual_obj[indivial_i,:] = [24. 5. 8. 13.]
554
555 min(cord_individual_obj[:,3]) = 11.0
556 histol_G_best_iter[iter,3] = 11.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i,:] = [ 0. 3. 8. 11.]
561 cord_individual_obj[indivial_i,:] = [ 1. 7. 15. 22.]
562 cord_individual_obj[indivial_i,:] = [ 2. 5. 68. 73.]
563 cord_individual_obj[indivial_i,:] = [ 3. 5. 58. 63.]
564 cord_individual_obj[indivial_i,:] = [ 4. 3. 36. 39.]
565 cord_individual_obj[indivial_i,:] = [ 5. 4. 17. 21.]
566 cord_individual_obj[indivial_i,:] = [ 6. 4. 15. 19.]
567 cord_individual_obj[indivial_i,:] = [ 7. 5. 10. 15.]
568 cord_individual_obj[indivial_i,:] = [ 8. 4. 41. 45.]
569 cord_individual_obj[indivial_i,:] = [ 9. 4. 28. 32.]
570 cord_individual_obj[indivial_i,:] = [10. 4. 24. 28.]
571 cord_individual_obj[indivial_i,:] = [11. 6. 40. 46.]
572 cord_individual_obj[indivial_i,:] = [12. 6. 83. 89.]
573 cord_individual_obj[indivial_i,:] = [13. 5. 12. 17.]
574 cord_individual_obj[indivial_i,:] = [14. 5. 48. 53.]
575 cord_individual_obj[indivial_i,:] = [15. 4. 47. 51.]
576 cord_individual_obj[indivial_i,:] = [16. 4. 36. 40.]
577 cord_individual_obj[indivial_i,:] = [17. 4. 23. 27.]
578 cord_individual_obj[indivial_i,:] = [18. 4. 67. 71.]
579 cord_individual_obj[indivial_i,:] = [19. 7. 45. 52.]
580 cord_individual_obj[indivial_i,:] = [20. 5. 33. 38.]
581 cord_individual_obj[indivial_i,:] = [21. 4. 136. 140.]
582 cord_individual_obj[indivial_i,:] = [22. 5. 58. 63.]
583 cord_individual_obj[indivial_i,:] = [23. 5. 129. 134.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 6. 70. 76.]  
585  
586     min(cord_individual_obj[:, 3]) = 11.0  
587     historl_G_best_iter[iter, 3] = 11.0  
588 Begin iteration:  
589  
590 iter = 18  
591     cord_individual_obj[indivial_i, :] = [ 0. 4. 48. 52.]  
592     cord_individual_obj[indivial_i, :] = [ 1. 4. 18. 22.]  
593     cord_individual_obj[indivial_i, :] = [ 2. 6. 49. 55.]  
594     cord_individual_obj[indivial_i, :] = [ 3. 3. 15. 18.]  
595     cord_individual_obj[indivial_i, :] = [ 4. 4. 25. 29.]  
596     cord_individual_obj[indivial_i, :] = [ 5. 5. 53. 58.]  
597     cord_individual_obj[indivial_i, :] = [ 6. 8. 20. 28.]  
598     cord_individual_obj[indivial_i, :] = [ 7. 5. 91. 96.]  
599     cord_individual_obj[indivial_i, :] = [ 8. 8. 129. 137.]  
600     cord_individual_obj[indivial_i, :] = [ 9. 5. 14. 19.]  
601     cord_individual_obj[indivial_i, :] = [10. 4. 56. 60.]  
602     cord_individual_obj[indivial_i, :] = [11. 5. 10. 15.]  
603     cord_individual_obj[indivial_i, :] = [12. 5. 30. 35.]  
604     cord_individual_obj[indivial_i, :] = [13. 4. 51. 55.]  
605     cord_individual_obj[indivial_i, :] = [14. 4. 28. 32.]  
606     cord_individual_obj[indivial_i, :] = [15. 5. 54. 59.]  
607     cord_individual_obj[indivial_i, :] = [16. 4. 20. 24.]  
608     cord_individual_obj[indivial_i, :] = [17. 5. 60. 65.]  
609     cord_individual_obj[indivial_i, :] = [18. 3. 49. 52.]  
610     cord_individual_obj[indivial_i, :] = [19. 6. 106. 112.]  
611     cord_individual_obj[indivial_i, :] = [20. 7. 32. 39.]  
612     cord_individual_obj[indivial_i, :] = [21. 3. 8. 11.]  
613     cord_individual_obj[indivial_i, :] = [22. 4. 66. 70.]  
614     cord_individual_obj[indivial_i, :] = [23. 4. 32. 36.]  
615     cord_individual_obj[indivial_i, :] = [24. 6. 16. 22.]  
616  
617     min(cord_individual_obj[:, 3]) = 11.0  
618     historl_G_best_iter[iter, 3] = 11.0  
619 Begin iteration:  
620  
621 iter = 19  
622     cord_individual_obj[indivial_i, :] = [ 0. 4. 36. 40.]  
623     cord_individual_obj[indivial_i, :] = [ 1. 6. 59. 65.]  
624     cord_individual_obj[indivial_i, :] = [ 2. 6. 32. 38.]  
625     cord_individual_obj[indivial_i, :] = [ 3. 3. 68. 71.]  
626     cord_individual_obj[indivial_i, :] = [ 4. 4. 42. 46.]  
627     cord_individual_obj[indivial_i, :] = [ 5. 4. 78. 82.]  
628     cord_individual_obj[indivial_i, :] = [ 6. 3. 44. 47.]  
629     cord_individual_obj[indivial_i, :] = [ 7. 5. 58. 63.]  
630     cord_individual_obj[indivial_i, :] = [ 8. 3. 8. 11.]  
631     cord_individual_obj[indivial_i, :] = [ 9. 3. 63. 66.]  
632     cord_individual_obj[indivial_i, :] = [10. 3. 56. 59.]  
633     cord_individual_obj[indivial_i, :] = [11. 4. 68. 72.]  
634     cord_individual_obj[indivial_i, :] = [12. 5. 22. 27.]  
635     cord_individual_obj[indivial_i, :] = [13. 5. 35. 40.]  
636     cord_individual_obj[indivial_i, :] = [14. 4. 43. 47.]  
637     cord_individual_obj[indivial_i, :] = [15. 3. 56. 59.]  
638     cord_individual_obj[indivial_i, :] = [16. 6. 19. 25.]  
639     cord_individual_obj[indivial_i, :] = [17. 4. 46. 50.]  
640     cord_individual_obj[indivial_i, :] = [18. 4. 36. 40.]  
641     cord_individual_obj[indivial_i, :] = [19. 5. 27. 32.]  
642     cord_individual_obj[indivial_i, :] = [20. 6. 46. 52.]  
643     cord_individual_obj[indivial_i, :] = [21. 5. 9. 14.]  
644     cord_individual_obj[indivial_i, :] = [22. 5. 46. 51.]  
645     cord_individual_obj[indivial_i, :] = [23. 3. 38. 41.]  
646     cord_individual_obj[indivial_i, :] = [24. 4. 45. 49.]  
647  
648     min(cord_individual_obj[:, 3]) = 11.0  
649     historl_G_best_iter[iter, 3] = 11.0  
650 Begin iteration:  
651  
652 iter = 20  
653     cord_individual_obj[indivial_i, :] = [ 0. 5. 38. 43.]  
654     cord_individual_obj[indivial_i, :] = [ 1. 6. 14. 20.]  
655     cord_individual_obj[indivial_i, :] = [ 2. 6. 13. 19.]  
656     cord_individual_obj[indivial_i, :] = [ 3. 3. 88. 91.]  
657     cord_individual_obj[indivial_i, :] = [ 4. 4. 29. 33.]  
658     cord_individual_obj[indivial_i, :] = [ 5. 3. 8. 11.]  
659     cord_individual_obj[indivial_i, :] = [ 6. 5. 13. 18.]  
660     cord_individual_obj[indivial_i, :] = [ 7. 4. 40. 44.]  
661     cord_individual_obj[indivial_i, :] = [ 8. 7. 21. 28.]  
662     cord_individual_obj[indivial_i, :] = [ 9. 4. 68. 72.]  
663     cord_individual_obj[indivial_i, :] = [10. 4. 34. 38.]  
664     cord_individual_obj[indivial_i, :] = [11. 6. 20. 26.]  
665     cord_individual_obj[indivial_i, :] = [12. 5. 13. 18.]  
666     cord_individual_obj[indivial_i, :] = [13. 5. 43. 48.]  
667     cord_individual_obj[indivial_i, :] = [14. 5. 78. 83.]
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668 cord_individual_obj[indivial_i, :] = [15. 4. 30. 34.]
669 cord_individual_obj[indivial_i, :] = [16. 5. 30. 35.]
670 cord_individual_obj[indivial_i, :] = [17. 5. 25. 30.]
671 cord_individual_obj[indivial_i, :] = [18. 3. 33. 36.]
672 cord_individual_obj[indivial_i, :] = [19. 6. 48. 54.]
673 cord_individual_obj[indivial_i, :] = [20. 6. 12. 18.]
674 cord_individual_obj[indivial_i, :] = [21. 5. 39. 44.]
675 cord_individual_obj[indivial_i, :] = [22. 5. 45. 50.]
676 cord_individual_obj[indivial_i, :] = [23. 3. 38. 41.]
677 cord_individual_obj[indivial_i, :] = [24. 5. 17. 22.]
678
679 min(cord_individual_obj[:, 3]) = 11.0
680 historl_G_best_iter[iter, 3] = 11.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 123.0
689 Proportion_of_area = 0.1138888888888889
690 BEST_CHROM =
691     berth: [ 4.5 23.5 11.5 23.5 16. 15. 4. 9.5]
692     time: [2. 2. 0. 2. 0. 0. 0.]
693     num_QC: [4. 4. 3. 4. 4. 4. 4. 3.]
694 Objective function values and some other indicators:
695 Obj0 = 3.00          Obj1 = 8.00          Obj0 + Obj1 = 11.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 8.00
698 Total index of q during berthing: 444.00
699 Specific arrangement for each vessel:
700
    V_id: 0           li: 9.0           xi: 4.5           bow of i: 0.0           tail of i: 9.0           gama_i0: 2.0           gama_i1: 3.0
    .0                 gama_i1 + 1: 4.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 160.0      work load_i:
160.0               work load gap_i: 0
701
    V_id: 1           li: 9.0           xi: 23.5           bow of i: 19.0           tail of i: 28.0           gama_i0: 2.0           gama_i1: 2
    .0                 gama_i1 + 1: 3.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 80.0      work
    load_i: 80.0       work load gap_i: 0
702
    V_id: 2           li: 5.0           xi: 11.5           bow of i: 9.0           tail of i: 14.0           gama_i0: 2.0           gama_i1: 3
    .0                 gama_i1 + 1: 4.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 120.0      work
    load_i: 120.0      work load gap_i: 0
703
    V_id: 3           li: 9.0           xi: 23.5           bow of i: 19.0           tail of i: 28.0           gama_i0: 0.0           gama_i1: 1
    .0                 gama_i1 + 1: 2.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 100.0      work
    load_i: 100.0      work load gap_i: 0
704
    V_id: 4           li: 4.0           xi: 16.0           bow of i: 14.0           tail of i: 18.0           gama_i0: 2.0           gama_i1: 2
    .0                 gama_i1 + 1: 3.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 80.0      work
    load_i: 80.0       work load gap_i: 0
705
    V_id: 5           li: 8.0           xi: 15.0           bow of i: 11.0           tail of i: 19.0           gama_i0: 0.0           gama_i1: 1
    .0                 gama_i1 + 1: 2.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 100.0      work
    load_i: 100.0      work load gap_i: 0
706
    V_id: 6           li: 8.0           xi: 4.0           bow of i: 0.0           tail of i: 8.0           gama_i0: 0.0           gama_i1: 1.0
    .0                 gama_i1 + 1: 2.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 160.0      work load_i:
160.0               work load gap_i: 0
707
    V_id: 7           li: 3.0           xi: 9.5           bow of i: 8.0           tail of i: 11.0           gama_i0: 0.0           gama_i1: 1.0
    .0                 gama_i1 + 1: 2.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 120.0      work load_i:
    120.0               work load gap_i: 0
708
709 Algorithm finished and the total CPU time: 228 s
710 End
711

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