

unknown

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80 cord_individual_obj[indivial_i, :] = [16. 6. 48. 54.]
81 cord_individual_obj[indivial_i, :] = [17. 8. 56. 64.]
82 cord_individual_obj[indivial_i, :] = [18. 5. 44. 49.]
83 cord_individual_obj[indivial_i, :] = [19. 7. 41. 48.]
84 cord_individual_obj[indivial_i, :] = [20. 5. 58. 63.]
85 cord_individual_obj[indivial_i, :] = [21. 5. 36. 41.]
86 cord_individual_obj[indivial_i, :] = [22. 5. 17. 22.]
87 cord_individual_obj[indivial_i, :] = [23. 6. 52. 58.]
88 cord_individual_obj[indivial_i, :] = [24. 6. 34. 40.]
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. 5. 44. 49.]
96 cord_individual_obj[indivial_i, :] = [ 1. 7. 28. 35.]
97 cord_individual_obj[indivial_i, :] = [ 2. 5. 50. 55.]
98 cord_individual_obj[indivial_i, :] = [ 3. 7. 34. 41.]
99 cord_individual_obj[indivial_i, :] = [ 4. 7. 30. 37.]
100 cord_individual_obj[indivial_i, :] = [ 5. 6. 79. 85.]
101 cord_individual_obj[indivial_i, :] = [ 6. 5. 25. 30.]
102 cord_individual_obj[indivial_i, :] = [ 7. 5. 43. 48.]
103 cord_individual_obj[indivial_i, :] = [ 8. 5. 17. 22.]
104 cord_individual_obj[indivial_i, :] = [ 9. 6. 36. 42.]
105 cord_individual_obj[indivial_i, :] = [10. 6. 58. 64.]
106 cord_individual_obj[indivial_i, :] = [11. 4. 48. 52.]
107 cord_individual_obj[indivial_i, :] = [12. 6. 76. 82.]
108 cord_individual_obj[indivial_i, :] = [13. 6. 35. 41.]
109 cord_individual_obj[indivial_i, :] = [14. 5. 48. 53.]
110 cord_individual_obj[indivial_i, :] = [15. 8. 68. 76.]
111 cord_individual_obj[indivial_i, :] = [16. 5. 37. 42.]
112 cord_individual_obj[indivial_i, :] = [17. 6. 52. 58.]
113 cord_individual_obj[indivial_i, :] = [18. 6. 28. 34.]
114 cord_individual_obj[indivial_i, :] = [19. 7. 47. 54.]
115 cord_individual_obj[indivial_i, :] = [20. 5. 49. 54.]
116 cord_individual_obj[indivial_i, :] = [21. 5. 53. 58.]
117 cord_individual_obj[indivial_i, :] = [22. 6. 27. 33.]
118 cord_individual_obj[indivial_i, :] = [23. 5. 53. 58.]
119 cord_individual_obj[indivial_i, :] = [24. 7. 57. 64.]
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. 26. 31.]
127 cord_individual_obj[indivial_i, :] = [ 1. 9. 52. 61.]
128 cord_individual_obj[indivial_i, :] = [ 2. 6. 36. 42.]
129 cord_individual_obj[indivial_i, :] = [ 3. 6. 41. 47.]
130 cord_individual_obj[indivial_i, :] = [ 4. 7. 55. 62.]
131 cord_individual_obj[indivial_i, :] = [ 5. 5. 17. 22.]
132 cord_individual_obj[indivial_i, :] = [ 6. 5. 25. 30.]
133 cord_individual_obj[indivial_i, :] = [ 7. 5. 45. 50.]
134 cord_individual_obj[indivial_i, :] = [ 8. 5. 84. 89.]
135 cord_individual_obj[indivial_i, :] = [ 9. 5. 32. 37.]
136 cord_individual_obj[indivial_i, :] = [10. 4. 68. 72.]
137 cord_individual_obj[indivial_i, :] = [11. 6. 36. 42.]
138 cord_individual_obj[indivial_i, :] = [12. 6. 75. 81.]
139 cord_individual_obj[indivial_i, :] = [13. 5. 26. 31.]
140 cord_individual_obj[indivial_i, :] = [14. 5. 35. 40.]
141 cord_individual_obj[indivial_i, :] = [15. 6. 71. 77.]
142 cord_individual_obj[indivial_i, :] = [16. 6. 45. 51.]
143 cord_individual_obj[indivial_i, :] = [17. 7. 38. 45.]
144 cord_individual_obj[indivial_i, :] = [18. 6. 69. 75.]
145 cord_individual_obj[indivial_i, :] = [19. 5. 86. 91.]
146 cord_individual_obj[indivial_i, :] = [20. 6. 58. 64.]
147 cord_individual_obj[indivial_i, :] = [21. 5. 83. 88.]
148 cord_individual_obj[indivial_i, :] = [22. 7. 37. 44.]
149 cord_individual_obj[indivial_i, :] = [23. 7. 46. 53.]
150 cord_individual_obj[indivial_i, :] = [24. 7. 34. 41.]
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. 7. 54. 61.]
159 cord_individual_obj[indivial_i, :] = [ 2. 5. 48. 53.]
160 cord_individual_obj[indivial_i, :] = [ 3. 6. 38. 44.]
161 cord_individual_obj[indivial_i, :] = [ 4. 6. 28. 34.]
162 cord_individual_obj[indivial_i, :] = [ 5. 7. 21. 28.]
163 cord_individual_obj[indivial_i, :] = [ 6. 5. 25. 30.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 5. 45. 50.]
165 cord_individual_obj[indivial_i,:] = [ 8. 6. 60. 66.]
166 cord_individual_obj[indivial_i,:] = [ 9. 6. 35. 41.]
167 cord_individual_obj[indivial_i,:] = [10. 5. 68. 73.]
168 cord_individual_obj[indivial_i,:] = [11. 6. 29. 35.]
169 cord_individual_obj[indivial_i,:] = [12. 5. 73. 78.]
170 cord_individual_obj[indivial_i,:] = [13. 5. 27. 32.]
171 cord_individual_obj[indivial_i,:] = [14. 6. 41. 47.]
172 cord_individual_obj[indivial_i,:] = [15. 6. 37. 43.]
173 cord_individual_obj[indivial_i,:] = [16. 5. 35. 40.]
174 cord_individual_obj[indivial_i,:] = [17. 6. 28. 34.]
175 cord_individual_obj[indivial_i,:] = [18. 5. 73. 78.]
176 cord_individual_obj[indivial_i,:] = [19. 5. 17. 22.]
177 cord_individual_obj[indivial_i,:] = [20. 5. 27. 32.]
178 cord_individual_obj[indivial_i,:] = [21. 5. 51. 56.]
179 cord_individual_obj[indivial_i,:] = [22. 7. 40. 47.]
180 cord_individual_obj[indivial_i,:] = [23. 7. 77. 84.]
181 cord_individual_obj[indivial_i,:] = [24. 6. 44. 50.]
182
183 min(cord_individual_obj[:,3]) = 22.0
184 historl_G_best_iter[iter,3] = 22.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 6. 24. 30.]
189 cord_individual_obj[indivial_i,:] = [ 1. 5. 83. 88.]
190 cord_individual_obj[indivial_i,:] = [ 2. 5. 33. 38.]
191 cord_individual_obj[indivial_i,:] = [ 3. 6. 37. 43.]
192 cord_individual_obj[indivial_i,:] = [ 4. 6. 32. 38.]
193 cord_individual_obj[indivial_i,:] = [ 5. 6. 29. 35.]
194 cord_individual_obj[indivial_i,:] = [ 6. 8. 46. 54.]
195 cord_individual_obj[indivial_i,:] = [ 7. 7. 38. 45.]
196 cord_individual_obj[indivial_i,:] = [ 8. 5. 63. 68.]
197 cord_individual_obj[indivial_i,:] = [ 9. 8. 84. 92.]
198 cord_individual_obj[indivial_i,:] = [10. 5. 18. 23.]
199 cord_individual_obj[indivial_i,:] = [11. 7. 67. 74.]
200 cord_individual_obj[indivial_i,:] = [12. 8. 26. 34.]
201 cord_individual_obj[indivial_i,:] = [13. 6. 20. 26.]
202 cord_individual_obj[indivial_i,:] = [14. 5. 19. 24.]
203 cord_individual_obj[indivial_i,:] = [15. 6. 45. 51.]
204 cord_individual_obj[indivial_i,:] = [16. 6. 24. 30.]
205 cord_individual_obj[indivial_i,:] = [17. 7. 22. 29.]
206 cord_individual_obj[indivial_i,:] = [18. 7. 22. 29.]
207 cord_individual_obj[indivial_i,:] = [19. 7. 62. 69.]
208 cord_individual_obj[indivial_i,:] = [20. 6. 51. 57.]
209 cord_individual_obj[indivial_i,:] = [21. 5. 45. 50.]
210 cord_individual_obj[indivial_i,:] = [22. 6. 30. 36.]
211 cord_individual_obj[indivial_i,:] = [23. 5. 17. 22.]
212 cord_individual_obj[indivial_i,:] = [24. 8. 23. 31.]
213
214 min(cord_individual_obj[:,3]) = 22.0
215 historl_G_best_iter[iter,3] = 22.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 5. 49. 54.]
220 cord_individual_obj[indivial_i,:] = [ 1. 7. 43. 50.]
221 cord_individual_obj[indivial_i,:] = [ 2. 7. 41. 48.]
222 cord_individual_obj[indivial_i,:] = [ 3. 5. 49. 54.]
223 cord_individual_obj[indivial_i,:] = [ 4. 7. 74. 81.]
224 cord_individual_obj[indivial_i,:] = [ 5. 5. 103. 108.]
225 cord_individual_obj[indivial_i,:] = [ 6. 6. 60. 66.]
226 cord_individual_obj[indivial_i,:] = [ 7. 6. 37. 43.]
227 cord_individual_obj[indivial_i,:] = [ 8. 5. 54. 59.]
228 cord_individual_obj[indivial_i,:] = [ 9. 5. 17. 22.]
229 cord_individual_obj[indivial_i,:] = [10. 5. 22. 27.]
230 cord_individual_obj[indivial_i,:] = [11. 7. 78. 85.]
231 cord_individual_obj[indivial_i,:] = [12. 7. 20. 27.]
232 cord_individual_obj[indivial_i,:] = [13. 7. 50. 57.]
233 cord_individual_obj[indivial_i,:] = [14. 4. 61. 65.]
234 cord_individual_obj[indivial_i,:] = [15. 5. 38. 43.]
235 cord_individual_obj[indivial_i,:] = [16. 6. 51. 57.]
236 cord_individual_obj[indivial_i,:] = [17. 7. 49. 56.]
237 cord_individual_obj[indivial_i,:] = [18. 6. 59. 65.]
238 cord_individual_obj[indivial_i,:] = [19. 6. 19. 25.]
239 cord_individual_obj[indivial_i,:] = [20. 5. 70. 75.]
240 cord_individual_obj[indivial_i,:] = [21. 6. 63. 69.]
241 cord_individual_obj[indivial_i,:] = [22. 5. 53. 58.]
242 cord_individual_obj[indivial_i,:] = [23. 5. 58. 63.]
243 cord_individual_obj[indivial_i,:] = [24. 6. 26. 32.]
244
245 min(cord_individual_obj[:,3]) = 22.0
246 historl_G_best_iter[iter,3] = 22.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0.  5. 34. 39.]
251 cord_individual_obj[indivial_i, :] = [ 1.  6. 99. 105.]
252 cord_individual_obj[indivial_i, :] = [ 2.  6. 55. 61.]
253 cord_individual_obj[indivial_i, :] = [ 3.  5. 97. 102.]
254 cord_individual_obj[indivial_i, :] = [ 4.  5. 86. 91.]
255 cord_individual_obj[indivial_i, :] = [ 5.  5. 17. 22.]
256 cord_individual_obj[indivial_i, :] = [ 6.  6. 51. 57.]
257 cord_individual_obj[indivial_i, :] = [ 7.  6. 30. 36.]
258 cord_individual_obj[indivial_i, :] = [ 8.  5. 39. 44.]
259 cord_individual_obj[indivial_i, :] = [ 9.  5. 46. 51.]
260 cord_individual_obj[indivial_i, :] = [10.  5. 48. 53.]
261 cord_individual_obj[indivial_i, :] = [11.  6. 36. 42.]
262 cord_individual_obj[indivial_i, :] = [12.  5. 68. 73.]
263 cord_individual_obj[indivial_i, :] = [13.  7. 79. 86.]
264 cord_individual_obj[indivial_i, :] = [14.  8. 76. 84.]
265 cord_individual_obj[indivial_i, :] = [15.  7. 34. 41.]
266 cord_individual_obj[indivial_i, :] = [16.  4. 56. 60.]
267 cord_individual_obj[indivial_i, :] = [17.  6. 50. 56.]
268 cord_individual_obj[indivial_i, :] = [18.  6. 20. 26.]
269 cord_individual_obj[indivial_i, :] = [19.  5. 46. 51.]
270 cord_individual_obj[indivial_i, :] = [20.  7. 55. 62.]
271 cord_individual_obj[indivial_i, :] = [21.  7. 21. 28.]
272 cord_individual_obj[indivial_i, :] = [22.  6. 46. 52.]
273 cord_individual_obj[indivial_i, :] = [23.  8. 34. 42.]
274 cord_individual_obj[indivial_i, :] = [24.  7. 24. 31.]
275

276 min(cord_individual_obj[:, 3]) = 22.0
277 historl_G_best_iter[iter, 3] = 22.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0.  6. 88. 94.]
282 cord_individual_obj[indivial_i, :] = [ 1.  5. 17. 22.]
283 cord_individual_obj[indivial_i, :] = [ 2.  5. 35. 40.]
284 cord_individual_obj[indivial_i, :] = [ 3.  8. 54. 62.]
285 cord_individual_obj[indivial_i, :] = [ 4.  6. 67. 73.]
286 cord_individual_obj[indivial_i, :] = [ 5.  7. 21. 28.]
287 cord_individual_obj[indivial_i, :] = [ 6.  7. 26. 33.]
288 cord_individual_obj[indivial_i, :] = [ 7.  8. 45. 53.]
289 cord_individual_obj[indivial_i, :] = [ 8.  4. 66. 70.]
290 cord_individual_obj[indivial_i, :] = [ 9.  6. 33. 39.]
291 cord_individual_obj[indivial_i, :] = [10.  7. 68. 75.]
292 cord_individual_obj[indivial_i, :] = [11.  6. 39. 45.]
293 cord_individual_obj[indivial_i, :] = [12.  5. 48. 53.]
294 cord_individual_obj[indivial_i, :] = [13.  7. 24. 31.]
295 cord_individual_obj[indivial_i, :] = [14.  7. 72. 79.]
296 cord_individual_obj[indivial_i, :] = [15.  5. 21. 26.]
297 cord_individual_obj[indivial_i, :] = [16.  7. 60. 67.]
298 cord_individual_obj[indivial_i, :] = [17.  6. 59. 65.]
299 cord_individual_obj[indivial_i, :] = [18.  7. 20. 27.]
300 cord_individual_obj[indivial_i, :] = [19.  8. 64. 72.]
301 cord_individual_obj[indivial_i, :] = [20.  6. 41. 47.]
302 cord_individual_obj[indivial_i, :] = [21.  5. 46. 51.]
303 cord_individual_obj[indivial_i, :] = [22.  5. 84. 89.]
304 cord_individual_obj[indivial_i, :] = [23.  6. 38. 44.]
305 cord_individual_obj[indivial_i, :] = [24.  7. 25. 32.]
306

307 min(cord_individual_obj[:, 3]) = 22.0
308 historl_G_best_iter[iter, 3] = 22.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0.  5. 17. 22.]
313 cord_individual_obj[indivial_i, :] = [ 1.  7. 27. 34.]
314 cord_individual_obj[indivial_i, :] = [ 2.  6. 34. 40.]
315 cord_individual_obj[indivial_i, :] = [ 3.  7. 43. 50.]
316 cord_individual_obj[indivial_i, :] = [ 4.  7. 55. 62.]
317 cord_individual_obj[indivial_i, :] = [ 5.  6. 55. 61.]
318 cord_individual_obj[indivial_i, :] = [ 6.  6. 24. 30.]
319 cord_individual_obj[indivial_i, :] = [ 7.  5. 45. 50.]
320 cord_individual_obj[indivial_i, :] = [ 8.  5. 72. 77.]
321 cord_individual_obj[indivial_i, :] = [ 9.  6. 36. 42.]
322 cord_individual_obj[indivial_i, :] = [10.  5. 58. 63.]
323 cord_individual_obj[indivial_i, :] = [11.  7. 36. 43.]
324 cord_individual_obj[indivial_i, :] = [12.  6. 75. 81.]
325 cord_individual_obj[indivial_i, :] = [13.  5. 48. 53.]
326 cord_individual_obj[indivial_i, :] = [14.  5. 48. 53.]
327 cord_individual_obj[indivial_i, :] = [15.  6. 40. 46.]
328 cord_individual_obj[indivial_i, :] = [16.  7. 48. 55.]
329 cord_individual_obj[indivial_i, :] = [17.  7. 31. 38.]
330 cord_individual_obj[indivial_i, :] = [18.  5. 67. 72.]
331 cord_individual_obj[indivial_i, :] = [19.  7. 62. 69.]

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332 cord_individual_obj[indivial_i,:] = [20. 5. 85. 90.]
333 cord_individual_obj[indivial_i,:] = [21. 6. 82. 88.]
334 cord_individual_obj[indivial_i,:] = [22. 6. 50. 56.]
335 cord_individual_obj[indivial_i,:] = [23. 5. 58. 63.]
336 cord_individual_obj[indivial_i,:] = [24. 7. 39. 46.]
337
338 min(cord_individual_obj[:,3]) = 22.0
339 histol_G_best_iter[iter,3] = 22.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i,:] = [ 0. 5. 26. 31.]
344 cord_individual_obj[indivial_i,:] = [ 1. 7. 90. 97.]
345 cord_individual_obj[indivial_i,:] = [ 2. 6. 44. 50.]
346 cord_individual_obj[indivial_i,:] = [ 3. 7. 41. 48.]
347 cord_individual_obj[indivial_i,:] = [ 4. 6. 28. 34.]
348 cord_individual_obj[indivial_i,:] = [ 5. 7. 21. 28.]
349 cord_individual_obj[indivial_i,:] = [ 6. 5. 25. 30.]
350 cord_individual_obj[indivial_i,:] = [ 7. 5. 45. 50.]
351 cord_individual_obj[indivial_i,:] = [ 8. 6. 57. 63.]
352 cord_individual_obj[indivial_i,:] = [ 9. 6. 36. 42.]
353 cord_individual_obj[indivial_i,:] = [10. 5. 68. 73.]
354 cord_individual_obj[indivial_i,:] = [11. 6. 39. 45.]
355 cord_individual_obj[indivial_i,:] = [12. 6. 75. 81.]
356 cord_individual_obj[indivial_i,:] = [13. 6. 59. 65.]
357 cord_individual_obj[indivial_i,:] = [14. 5. 37. 42.]
358 cord_individual_obj[indivial_i,:] = [15. 5. 27. 32.]
359 cord_individual_obj[indivial_i,:] = [16. 5. 34. 39.]
360 cord_individual_obj[indivial_i,:] = [17. 6. 32. 38.]
361 cord_individual_obj[indivial_i,:] = [18. 6. 87. 93.]
362 cord_individual_obj[indivial_i,:] = [19. 7. 40. 47.]
363 cord_individual_obj[indivial_i,:] = [20. 5. 17. 22.]
364 cord_individual_obj[indivial_i,:] = [21. 7. 42. 49.]
365 cord_individual_obj[indivial_i,:] = [22. 6. 33. 39.]
366 cord_individual_obj[indivial_i,:] = [23. 7. 46. 53.]
367 cord_individual_obj[indivial_i,:] = [24. 7. 56. 63.]
368
369 min(cord_individual_obj[:,3]) = 22.0
370 histol_G_best_iter[iter,3] = 22.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i,:] = [ 0. 7. 21. 28.]
375 cord_individual_obj[indivial_i,:] = [ 1. 5. 17. 22.]
376 cord_individual_obj[indivial_i,:] = [ 2. 5. 37. 42.]
377 cord_individual_obj[indivial_i,:] = [ 3. 6. 79. 85.]
378 cord_individual_obj[indivial_i,:] = [ 4. 7. 26. 33.]
379 cord_individual_obj[indivial_i,:] = [ 5. 4. 74. 78.]
380 cord_individual_obj[indivial_i,:] = [ 6. 7. 19. 26.]
381 cord_individual_obj[indivial_i,:] = [ 7. 6. 19. 25.]
382 cord_individual_obj[indivial_i,:] = [ 8. 5. 35. 40.]
383 cord_individual_obj[indivial_i,:] = [ 9. 5. 48. 53.]
384 cord_individual_obj[indivial_i,:] = [10. 5. 16. 21.]
385 cord_individual_obj[indivial_i,:] = [11. 6. 68. 74.]
386 cord_individual_obj[indivial_i,:] = [12. 8. 54. 62.]
387 cord_individual_obj[indivial_i,:] = [13. 7. 32. 39.]
388 cord_individual_obj[indivial_i,:] = [14. 6. 19. 25.]
389 cord_individual_obj[indivial_i,:] = [15. 6. 47. 53.]
390 cord_individual_obj[indivial_i,:] = [16. 8. 45. 53.]
391 cord_individual_obj[indivial_i,:] = [17. 9. 29. 38.]
392 cord_individual_obj[indivial_i,:] = [18. 5. 40. 45.]
393 cord_individual_obj[indivial_i,:] = [19. 6. 38. 44.]
394 cord_individual_obj[indivial_i,:] = [20. 6. 58. 64.]
395 cord_individual_obj[indivial_i,:] = [21. 7. 26. 33.]
396 cord_individual_obj[indivial_i,:] = [22. 7. 79. 86.]
397 cord_individual_obj[indivial_i,:] = [23. 8. 41. 49.]
398 cord_individual_obj[indivial_i,:] = [24. 7. 48. 55.]
399
400 min(cord_individual_obj[:,3]) = 21.0
401 histol_G_best_iter[iter,3] = 21.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i,:] = [ 0. 5. 38. 43.]
406 cord_individual_obj[indivial_i,:] = [ 1. 6. 48. 54.]
407 cord_individual_obj[indivial_i,:] = [ 2. 5. 50. 55.]
408 cord_individual_obj[indivial_i,:] = [ 3. 6. 39. 45.]
409 cord_individual_obj[indivial_i,:] = [ 4. 5. 52. 57.]
410 cord_individual_obj[indivial_i,:] = [ 5. 5. 52. 57.]
411 cord_individual_obj[indivial_i,:] = [ 6. 6. 53. 59.]
412 cord_individual_obj[indivial_i,:] = [ 7. 7. 33. 40.]
413 cord_individual_obj[indivial_i,:] = [ 8. 5. 63. 68.]
414 cord_individual_obj[indivial_i,:] = [ 9. 6. 80. 86.]
415 cord_individual_obj[indivial_i,:] = [10. 4. 44. 48.]

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416 cord_individual_obj[indivial_i,:] = [11. 7. 43. 50.]
417 cord_individual_obj[indivial_i,:] = [12. 7. 51. 58.]
418 cord_individual_obj[indivial_i,:] = [13. 5. 41. 46.]
419 cord_individual_obj[indivial_i,:] = [14. 6. 50. 56.]
420 cord_individual_obj[indivial_i,:] = [15. 6. 43. 49.]
421 cord_individual_obj[indivial_i,:] = [16. 7. 42. 49.]
422 cord_individual_obj[indivial_i,:] = [17. 6. 25. 31.]
423 cord_individual_obj[indivial_i,:] = [18. 5. 45. 50.]
424 cord_individual_obj[indivial_i,:] = [19. 7. 62. 69.]
425 cord_individual_obj[indivial_i,:] = [20. 5. 46. 51.]
426 cord_individual_obj[indivial_i,:] = [21. 5. 48. 53.]
427 cord_individual_obj[indivial_i,:] = [22. 5. 16. 21.]
428 cord_individual_obj[indivial_i,:] = [23. 5. 53. 58.]
429 cord_individual_obj[indivial_i,:] = [24. 7. 43. 50.]
430
431 min(cord_individual_obj[:,3]) = 21.0
432 histol_G_best_iter[iter,3] = 21.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 5. 41. 46.]
437 cord_individual_obj[indivial_i,:] = [ 1. 5. 46. 51.]
438 cord_individual_obj[indivial_i,:] = [ 2. 5. 48. 53.]
439 cord_individual_obj[indivial_i,:] = [ 3. 6. 46. 52.]
440 cord_individual_obj[indivial_i,:] = [ 4. 6. 55. 61.]
441 cord_individual_obj[indivial_i,:] = [ 5. 5. 65. 70.]
442 cord_individual_obj[indivial_i,:] = [ 6. 7. 44. 51.]
443 cord_individual_obj[indivial_i,:] = [ 7. 6. 30. 36.]
444 cord_individual_obj[indivial_i,:] = [ 8. 5. 63. 68.]
445 cord_individual_obj[indivial_i,:] = [ 9. 5. 16. 21.]
446 cord_individual_obj[indivial_i,:] = [10. 5. 43. 48.]
447 cord_individual_obj[indivial_i,:] = [11. 7. 67. 74.]
448 cord_individual_obj[indivial_i,:] = [12. 8. 67. 75.]
449 cord_individual_obj[indivial_i,:] = [13. 5. 34. 39.]
450 cord_individual_obj[indivial_i,:] = [14. 5. 33. 38.]
451 cord_individual_obj[indivial_i,:] = [15. 6. 43. 49.]
452 cord_individual_obj[indivial_i,:] = [16. 7. 42. 49.]
453 cord_individual_obj[indivial_i,:] = [17. 6. 44. 50.]
454 cord_individual_obj[indivial_i,:] = [18. 5. 61. 66.]
455 cord_individual_obj[indivial_i,:] = [19. 9. 51. 60.]
456 cord_individual_obj[indivial_i,:] = [20. 6. 51. 57.]
457 cord_individual_obj[indivial_i,:] = [21. 7. 52. 59.]
458 cord_individual_obj[indivial_i,:] = [22. 7. 44. 51.]
459 cord_individual_obj[indivial_i,:] = [23. 6. 46. 52.]
460 cord_individual_obj[indivial_i,:] = [24. 6. 83. 89.]
461
462 min(cord_individual_obj[:,3]) = 21.0
463 histol_G_best_iter[iter,3] = 21.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 6. 41. 47.]
468 cord_individual_obj[indivial_i,:] = [ 1. 5. 59. 64.]
469 cord_individual_obj[indivial_i,:] = [ 2. 6. 68. 74.]
470 cord_individual_obj[indivial_i,:] = [ 3. 5. 50. 55.]
471 cord_individual_obj[indivial_i,:] = [ 4. 7. 25. 32.]
472 cord_individual_obj[indivial_i,:] = [ 5. 6. 36. 42.]
473 cord_individual_obj[indivial_i,:] = [ 6. 8. 39. 47.]
474 cord_individual_obj[indivial_i,:] = [ 7. 8. 59. 67.]
475 cord_individual_obj[indivial_i,:] = [ 8. 5. 42. 47.]
476 cord_individual_obj[indivial_i,:] = [ 9. 7. 41. 48.]
477 cord_individual_obj[indivial_i,:] = [10. 6. 53. 59.]
478 cord_individual_obj[indivial_i,:] = [11. 6. 19. 25.]
479 cord_individual_obj[indivial_i,:] = [12. 7. 32. 39.]
480 cord_individual_obj[indivial_i,:] = [13. 6. 65. 71.]
481 cord_individual_obj[indivial_i,:] = [14. 7. 36. 43.]
482 cord_individual_obj[indivial_i,:] = [15. 7. 45. 52.]
483 cord_individual_obj[indivial_i,:] = [16. 6. 36. 42.]
484 cord_individual_obj[indivial_i,:] = [17. 8. 26. 34.]
485 cord_individual_obj[indivial_i,:] = [18. 5. 57. 62.]
486 cord_individual_obj[indivial_i,:] = [19. 5. 68. 73.]
487 cord_individual_obj[indivial_i,:] = [20. 6. 57. 63.]
488 cord_individual_obj[indivial_i,:] = [21. 6. 40. 46.]
489 cord_individual_obj[indivial_i,:] = [22. 4. 71. 75.]
490 cord_individual_obj[indivial_i,:] = [23. 8. 53. 61.]
491 cord_individual_obj[indivial_i,:] = [24. 5. 16. 21.]
492
493 min(cord_individual_obj[:,3]) = 21.0
494 histol_G_best_iter[iter,3] = 21.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 5. 41. 46.]
499 cord_individual_obj[indivial_i,:] = [ 1. 4. 64. 68.]

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500 cord_individual_obj[indivial_i, :] = [ 2.  7. 52. 59.]
501 cord_individual_obj[indivial_i, :] = [ 3.  7. 52. 59.]
502 cord_individual_obj[indivial_i, :] = [ 4.  5. 47. 52.]
503 cord_individual_obj[indivial_i, :] = [ 5.  5. 50. 55.]
504 cord_individual_obj[indivial_i, :] = [ 6.  5. 34. 39.]
505 cord_individual_obj[indivial_i, :] = [ 7.  5. 51. 56.]
506 cord_individual_obj[indivial_i, :] = [ 8.  5. 29. 34.]
507 cord_individual_obj[indivial_i, :] = [ 9.  6. 51. 57.]
508 cord_individual_obj[indivial_i, :] = [10.  5. 49. 54.]
509 cord_individual_obj[indivial_i, :] = [11.  7. 53. 60.]
510 cord_individual_obj[indivial_i, :] = [12.  7. 49. 56.]
511 cord_individual_obj[indivial_i, :] = [13.  5. 41. 46.]
512 cord_individual_obj[indivial_i, :] = [14.  5. 38. 43.]
513 cord_individual_obj[indivial_i, :] = [15.  5. 51. 56.]
514 cord_individual_obj[indivial_i, :] = [16.  6. 66. 72.]
515 cord_individual_obj[indivial_i, :] = [17.  5. 49. 54.]
516 cord_individual_obj[indivial_i, :] = [18.  5. 46. 51.]
517 cord_individual_obj[indivial_i, :] = [19.  5. 30. 35.]
518 cord_individual_obj[indivial_i, :] = [20.  5. 45. 50.]
519 cord_individual_obj[indivial_i, :] = [21.  5. 49. 54.]
520 cord_individual_obj[indivial_i, :] = [22.  5. 16. 21.]
521 cord_individual_obj[indivial_i, :] = [23.  6. 42. 48.]
522 cord_individual_obj[indivial_i, :] = [24.  6. 83. 89.]
523
524 min(cord_individual_obj[:, 3]) = 21.0
525 histort_G_best_iter[iter, 3] = 21.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i, :] = [ 0.  6. 41. 47.]
530 cord_individual_obj[indivial_i, :] = [ 1.  5. 46. 51.]
531 cord_individual_obj[indivial_i, :] = [ 2.  6. 50. 56.]
532 cord_individual_obj[indivial_i, :] = [ 3.  6. 49. 55.]
533 cord_individual_obj[indivial_i, :] = [ 4.  7. 54. 61.]
534 cord_individual_obj[indivial_i, :] = [ 5.  6. 66. 72.]
535 cord_individual_obj[indivial_i, :] = [ 6.  6. 40. 46.]
536 cord_individual_obj[indivial_i, :] = [ 7.  6. 48. 54.]
537 cord_individual_obj[indivial_i, :] = [ 8.  4. 49. 53.]
538 cord_individual_obj[indivial_i, :] = [ 9.  7. 49. 56.]
539 cord_individual_obj[indivial_i, :] = [10.  5. 30. 35.]
540 cord_individual_obj[indivial_i, :] = [11.  5. 38. 43.]
541 cord_individual_obj[indivial_i, :] = [12.  6. 40. 46.]
542 cord_individual_obj[indivial_i, :] = [13.  5. 41. 46.]
543 cord_individual_obj[indivial_i, :] = [14.  5. 45. 50.]
544 cord_individual_obj[indivial_i, :] = [15.  6. 43. 49.]
545 cord_individual_obj[indivial_i, :] = [16.  6. 55. 61.]
546 cord_individual_obj[indivial_i, :] = [17.  5. 53. 58.]
547 cord_individual_obj[indivial_i, :] = [18.  6. 61. 67.]
548 cord_individual_obj[indivial_i, :] = [19.  9. 67. 76.]
549 cord_individual_obj[indivial_i, :] = [20.  6. 56. 62.]
550 cord_individual_obj[indivial_i, :] = [21.  6. 52. 58.]
551 cord_individual_obj[indivial_i, :] = [22.  7. 44. 51.]
552 cord_individual_obj[indivial_i, :] = [23.  6. 36. 42.]
553 cord_individual_obj[indivial_i, :] = [24.  5. 16. 21.]
554
555 min(cord_individual_obj[:, 3]) = 21.0
556 histort_G_best_iter[iter, 3] = 21.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i, :] = [ 0.  4. 51. 55.]
561 cord_individual_obj[indivial_i, :] = [ 1.  6. 48. 54.]
562 cord_individual_obj[indivial_i, :] = [ 2.  5. 50. 55.]
563 cord_individual_obj[indivial_i, :] = [ 3.  6. 46. 52.]
564 cord_individual_obj[indivial_i, :] = [ 4.  5. 31. 36.]
565 cord_individual_obj[indivial_i, :] = [ 5.  5. 65. 70.]
566 cord_individual_obj[indivial_i, :] = [ 6.  6. 40. 46.]
567 cord_individual_obj[indivial_i, :] = [ 7.  4. 45. 49.]
568 cord_individual_obj[indivial_i, :] = [ 8.  5. 49. 54.]
569 cord_individual_obj[indivial_i, :] = [ 9.  6. 64. 70.]
570 cord_individual_obj[indivial_i, :] = [10.  5. 32. 37.]
571 cord_individual_obj[indivial_i, :] = [11.  5. 38. 43.]
572 cord_individual_obj[indivial_i, :] = [12.  7. 53. 60.]
573 cord_individual_obj[indivial_i, :] = [13.  5. 39. 44.]
574 cord_individual_obj[indivial_i, :] = [14.  5. 25. 30.]
575 cord_individual_obj[indivial_i, :] = [15.  6. 43. 49.]
576 cord_individual_obj[indivial_i, :] = [16.  5. 54. 59.]
577 cord_individual_obj[indivial_i, :] = [17.  6. 46. 52.]
578 cord_individual_obj[indivial_i, :] = [18.  6. 50. 56.]
579 cord_individual_obj[indivial_i, :] = [19.  5. 16. 21.]
580 cord_individual_obj[indivial_i, :] = [20.  6. 48. 54.]
581 cord_individual_obj[indivial_i, :] = [21.  6. 52. 58.]
582 cord_individual_obj[indivial_i, :] = [22.  7. 44. 51.]
583 cord_individual_obj[indivial_i, :] = [23.  6. 46. 52.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 6. 83. 89.]  
585  
586     min(cord_individual_obj[:, 3]) = 21.0  
587     historl_G_best_iter[iter, 3] = 21.0  
588 Begin iteration:  
589  
590 iter = 18  
591     cord_individual_obj[indivial_i, :] = [ 0. 6. 39. 45.]  
592     cord_individual_obj[indivial_i, :] = [ 1. 6. 46. 52.]  
593     cord_individual_obj[indivial_i, :] = [ 2. 5. 49. 54.]  
594     cord_individual_obj[indivial_i, :] = [ 3. 6. 52. 58.]  
595     cord_individual_obj[indivial_i, :] = [ 4. 5. 53. 58.]  
596     cord_individual_obj[indivial_i, :] = [ 5. 7. 67. 74.]  
597     cord_individual_obj[indivial_i, :] = [ 6. 5. 31. 36.]  
598     cord_individual_obj[indivial_i, :] = [ 7. 5. 39. 44.]  
599     cord_individual_obj[indivial_i, :] = [ 8. 5. 43. 48.]  
600     cord_individual_obj[indivial_i, :] = [ 9. 6. 64. 70.]  
601     cord_individual_obj[indivial_i, :] = [10. 5. 31. 36.]  
602     cord_individual_obj[indivial_i, :] = [11. 5. 39. 44.]  
603     cord_individual_obj[indivial_i, :] = [12. 7. 56. 63.]  
604     cord_individual_obj[indivial_i, :] = [13. 5. 44. 49.]  
605     cord_individual_obj[indivial_i, :] = [14. 5. 44. 49.]  
606     cord_individual_obj[indivial_i, :] = [15. 6. 43. 49.]  
607     cord_individual_obj[indivial_i, :] = [16. 6. 55. 61.]  
608     cord_individual_obj[indivial_i, :] = [17. 5. 52. 57.]  
609     cord_individual_obj[indivial_i, :] = [18. 8. 23. 31.]  
610     cord_individual_obj[indivial_i, :] = [19. 7. 63. 70.]  
611     cord_individual_obj[indivial_i, :] = [20. 6. 53. 59.]  
612     cord_individual_obj[indivial_i, :] = [21. 7. 52. 59.]  
613     cord_individual_obj[indivial_i, :] = [22. 7. 44. 51.]  
614     cord_individual_obj[indivial_i, :] = [23. 6. 36. 42.]  
615     cord_individual_obj[indivial_i, :] = [24. 5. 16. 21.]  
616  
617     min(cord_individual_obj[:, 3]) = 21.0  
618     historl_G_best_iter[iter, 3] = 21.0  
619 Begin iteration:  
620  
621 iter = 19  
622     cord_individual_obj[indivial_i, :] = [ 0. 5. 20. 25.]  
623     cord_individual_obj[indivial_i, :] = [ 1. 8. 56. 64.]  
624     cord_individual_obj[indivial_i, :] = [ 2. 6. 39. 45.]  
625     cord_individual_obj[indivial_i, :] = [ 3. 6. 34. 40.]  
626     cord_individual_obj[indivial_i, :] = [ 4. 7. 57. 64.]  
627     cord_individual_obj[indivial_i, :] = [ 5. 5. 16. 21.]  
628     cord_individual_obj[indivial_i, :] = [ 6. 7. 23. 30.]  
629     cord_individual_obj[indivial_i, :] = [ 7. 7. 56. 63.]  
630     cord_individual_obj[indivial_i, :] = [ 8. 5. 18. 23.]  
631     cord_individual_obj[indivial_i, :] = [ 9. 5. 22. 27.]  
632     cord_individual_obj[indivial_i, :] = [10. 5. 45. 50.]  
633     cord_individual_obj[indivial_i, :] = [11. 7. 41. 48.]  
634     cord_individual_obj[indivial_i, :] = [12. 6. 51. 57.]  
635     cord_individual_obj[indivial_i, :] = [13. 5. 58. 63.]  
636     cord_individual_obj[indivial_i, :] = [14. 5. 28. 33.]  
637     cord_individual_obj[indivial_i, :] = [15. 5. 38. 43.]  
638     cord_individual_obj[indivial_i, :] = [16. 7. 50. 57.]  
639     cord_individual_obj[indivial_i, :] = [17. 8. 17. 25.]  
640     cord_individual_obj[indivial_i, :] = [18. 5. 21. 26.]  
641     cord_individual_obj[indivial_i, :] = [19. 5. 49. 54.]  
642     cord_individual_obj[indivial_i, :] = [20. 6. 65. 71.]  
643     cord_individual_obj[indivial_i, :] = [21. 6. 71. 77.]  
644     cord_individual_obj[indivial_i, :] = [22. 7. 103. 110.]  
645     cord_individual_obj[indivial_i, :] = [23. 8. 30. 38.]  
646     cord_individual_obj[indivial_i, :] = [24. 6. 83. 89.]  
647  
648     min(cord_individual_obj[:, 3]) = 21.0  
649     historl_G_best_iter[iter, 3] = 21.0  
650 Begin iteration:  
651  
652 iter = 20  
653     cord_individual_obj[indivial_i, :] = [ 0. 5. 41. 46.]  
654     cord_individual_obj[indivial_i, :] = [ 1. 5. 45. 50.]  
655     cord_individual_obj[indivial_i, :] = [ 2. 5. 50. 55.]  
656     cord_individual_obj[indivial_i, :] = [ 3. 7. 50. 57.]  
657     cord_individual_obj[indivial_i, :] = [ 4. 6. 47. 53.]  
658     cord_individual_obj[indivial_i, :] = [ 5. 6. 66. 72.]  
659     cord_individual_obj[indivial_i, :] = [ 6. 5. 40. 45.]  
660     cord_individual_obj[indivial_i, :] = [ 7. 6. 30. 36.]  
661     cord_individual_obj[indivial_i, :] = [ 8. 5. 43. 48.]  
662     cord_individual_obj[indivial_i, :] = [ 9. 6. 49. 55.]  
663     cord_individual_obj[indivial_i, :] = [10. 5. 44. 49.]  
664     cord_individual_obj[indivial_i, :] = [11. 5. 39. 44.]  
665     cord_individual_obj[indivial_i, :] = [12. 7. 41. 48.]  
666     cord_individual_obj[indivial_i, :] = [13. 5. 39. 44.]  
667     cord_individual_obj[indivial_i, :] = [14. 5. 46. 51.]
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668 cord_individual_obj[indivial_i,:] = [15. 6. 43. 49.]
669 cord_individual_obj[indivial_i,:] = [16. 6. 45. 51.]
670 cord_individual_obj[indivial_i,:] = [17. 6. 45. 51.]
671 cord_individual_obj[indivial_i,:] = [18. 6. 49. 55.]
672 cord_individual_obj[indivial_i,:] = [19. 9. 67. 76.]
673 cord_individual_obj[indivial_i,:] = [20. 6. 68. 74.]
674 cord_individual_obj[indivial_i,:] = [21. 5. 49. 54.]
675 cord_individual_obj[indivial_i,:] = [22. 5. 16. 21.]
676 cord_individual_obj[indivial_i,:] = [23. 5. 53. 58.]
677 cord_individual_obj[indivial_i,:] = [24. 6. 83. 89.]
678
679 min(cord_individual_obj[:,3]) = 21.0
680 historl_G_best_iter[iter,3] = 21.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 149.0
689 Proportion_of_area = 0.13796296296296295
690 BEST_CHROM =
691 berth: [ 4. 21.5 14.5 4. 9.5 4.5 12.5 22. 20.5 12.5]
692 time: [2. 3. 0. 0. 4. 2. 0. 2. 3.]
693 num_QC: [5. 4. 4. 4. 2. 2. 5. 5. 3.]
694 Objective function values and some other indicators:
695 Obj0 = 5.00 Obj1 = 16.00 Obj0 + Obj1 = 21.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 16.00
698 Total index of q during berthing: 549.00
699 Specific arrangement for each vessel:
700 V_id: 0 li: 8.0 xi: 4.0 bow of i: 0.0 tail of i: 8.0 gama_i0: 2.0 gama_i1: 3.0
701 .0 work load gap_i: 0 gama_i1 + 1: 4.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 160.0 work load_i:
702 V_id: 1 li: 9.0 xi: 21.5 bow of i: 17.0 tail of i: 26.0 gama_i0: 3.0 gama_i1: 4
703 .0 work load gap_i: 0 gama_i1 + 1: 5.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 120.0 work
704 V_id: 2 li: 7.0 xi: 14.5 bow of i: 11.0 tail of i: 18.0 gama_i0: 0.0 gama_i1: 1
705 .0 work load gap_i: 0 gama_i1 + 1: 2.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 140.0 work
706 V_id: 3 li: 8.0 xi: 4.0 bow of i: 0.0 tail of i: 8.0 gama_i0: 0.0 gama_i1: 1.0
707 .0 work load gap_i: 0 gama_i1 + 1: 2.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 160.0 work load_i:
708 V_id: 4 li: 3.0 xi: 9.5 bow of i: 8.0 tail of i: 11.0 gama_i0: 0.0 gama_i1: 1.0
709 .0 work load gap_i: 0 gama_i1 + 1: 2.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 60.0 work load_i:
710 V_id: 5 li: 9.0 xi: 4.5 bow of i: 0.0 tail of i: 9.0 gama_i0: 4.0 gama_i1: 5.0
711 .0 work load gap_i: 0 gama_i1 + 1: 6.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 60.0 work load_i:
712 V_id: 6 li: 9.0 xi: 12.5 bow of i: 8.0 tail of i: 17.0 gama_i0: 2.0 gama_i1: 2
713 .0 work load gap_i: 0 gama_i1 + 1: 3.0 gama_i1 - gama_i0: 0.0 duration_time_i: 1.0 demand_i: 100.0 work
714 V_id: 7 li: 8.0 xi: 22.0 bow of i: 18.0 tail of i: 26.0 gama_i0: 0.0 gama_i1: 1
715 .0 work load gap_i: 0 gama_i1 + 1: 2.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 160.0 work
716 V_id: 8 li: 5.0 xi: 20.5 bow of i: 18.0 tail of i: 23.0 gama_i0: 2.0 gama_i1: 2
717 .0 work load gap_i: 0 gama_i1 + 1: 3.0 gama_i1 - gama_i0: 0.0 duration_time_i: 1.0 demand_i: 60.0 work
718 V_id: 9 li: 7.0 xi: 12.5 bow of i: 9.0 tail of i: 16.0 gama_i0: 3.0 gama_i1: 4
719 .0 work load gap_i: 0 gama_i1 + 1: 5.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 80.0 work
720
721 Algorithm finished and the total CPU time: 263 s
722 End
723

```