

unknown

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80 cord_individual_obj[indivial_i,:] = [16. 5. 72. 77.]
81 cord_individual_obj[indivial_i,:] = [17. 3. 6. 9.]
82 cord_individual_obj[indivial_i,:] = [18. 4. 48. 52.]
83 cord_individual_obj[indivial_i,:] = [19. 5. 9. 14.]
84 cord_individual_obj[indivial_i,:] = [20. 5. 30. 35.]
85 cord_individual_obj[indivial_i,:] = [21. 5. 9. 14.]
86 cord_individual_obj[indivial_i,:] = [22. 5. 9. 14.]
87 cord_individual_obj[indivial_i,:] = [23. 5. 48. 53.]
88 cord_individual_obj[indivial_i,:] = [24. 5. 40. 45.]
89
90 min(cord_individual_obj[:,3]) = 9.0
91 historl_G_best_iter[iter,3] = 9.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 6. 8. 14.]
96 cord_individual_obj[indivial_i,:] = [ 1. 4. 6. 10.]
97 cord_individual_obj[indivial_i,:] = [ 2. 5. 36. 41.]
98 cord_individual_obj[indivial_i,:] = [ 3. 3. 30. 33.]
99 cord_individual_obj[indivial_i,:] = [ 4. 5. 48. 53.]
100 cord_individual_obj[indivial_i,:] = [ 5. 4. 78. 82.]
101 cord_individual_obj[indivial_i,:] = [ 6. 4. 38. 42.]
102 cord_individual_obj[indivial_i,:] = [ 7. 4. 12. 16.]
103 cord_individual_obj[indivial_i,:] = [ 8. 3. 54. 57.]
104 cord_individual_obj[indivial_i,:] = [ 9. 5. 38. 43.]
105 cord_individual_obj[indivial_i,:] = [10. 3. 6. 9.]
106 cord_individual_obj[indivial_i,:] = [11. 7. 12. 19.]
107 cord_individual_obj[indivial_i,:] = [12. 4. 86. 90.]
108 cord_individual_obj[indivial_i,:] = [13. 6. 32. 38.]
109 cord_individual_obj[indivial_i,:] = [14. 5. 25. 30.]
110 cord_individual_obj[indivial_i,:] = [15. 3. 16. 19.]
111 cord_individual_obj[indivial_i,:] = [16. 5. 7. 12.]
112 cord_individual_obj[indivial_i,:] = [17. 4. 41. 45.]
113 cord_individual_obj[indivial_i,:] = [18. 5. 36. 41.]
114 cord_individual_obj[indivial_i,:] = [19. 6. 7. 13.]
115 cord_individual_obj[indivial_i,:] = [20. 4. 50. 54.]
116 cord_individual_obj[indivial_i,:] = [21. 4. 19. 23.]
117 cord_individual_obj[indivial_i,:] = [22. 5. 25. 30.]
118 cord_individual_obj[indivial_i,:] = [23. 4. 36. 40.]
119 cord_individual_obj[indivial_i,:] = [24. 5. 6. 11.]
120
121 min(cord_individual_obj[:,3]) = 9.0
122 historl_G_best_iter[iter,3] = 9.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 5. 8. 13.]
127 cord_individual_obj[indivial_i,:] = [ 1. 4. 23. 27.]
128 cord_individual_obj[indivial_i,:] = [ 2. 4. 24. 28.]
129 cord_individual_obj[indivial_i,:] = [ 3. 5. 61. 66.]
130 cord_individual_obj[indivial_i,:] = [ 4. 4. 32. 36.]
131 cord_individual_obj[indivial_i,:] = [ 5. 4. 37. 41.]
132 cord_individual_obj[indivial_i,:] = [ 6. 4. 43. 47.]
133 cord_individual_obj[indivial_i,:] = [ 7. 5. 63. 68.]
134 cord_individual_obj[indivial_i,:] = [ 8. 3. 5. 8.]
135 cord_individual_obj[indivial_i,:] = [ 9. 5. 37. 42.]
136 cord_individual_obj[indivial_i,:] = [10. 4. 42. 46.]
137 cord_individual_obj[indivial_i,:] = [11. 4. 63. 67.]
138 cord_individual_obj[indivial_i,:] = [12. 3. 6. 9.]
139 cord_individual_obj[indivial_i,:] = [13. 4. 12. 16.]
140 cord_individual_obj[indivial_i,:] = [14. 5. 38. 43.]
141 cord_individual_obj[indivial_i,:] = [15. 8. 27. 35.]
142 cord_individual_obj[indivial_i,:] = [16. 4. 53. 57.]
143 cord_individual_obj[indivial_i,:] = [17. 4. 43. 47.]
144 cord_individual_obj[indivial_i,:] = [18. 4. 26. 30.]
145 cord_individual_obj[indivial_i,:] = [19. 4. 6. 10.]
146 cord_individual_obj[indivial_i,:] = [20. 3. 16. 19.]
147 cord_individual_obj[indivial_i,:] = [21. 5. 28. 33.]
148 cord_individual_obj[indivial_i,:] = [22. 4. 39. 43.]
149 cord_individual_obj[indivial_i,:] = [23. 4. 6. 10.]
150 cord_individual_obj[indivial_i,:] = [24. 6. 17. 23.]
151
152 min(cord_individual_obj[:,3]) = 8.0
153 historl_G_best_iter[iter,3] = 8.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 5. 62. 67.]
158 cord_individual_obj[indivial_i,:] = [ 1. 4. 7. 11.]
159 cord_individual_obj[indivial_i,:] = [ 2. 4. 42. 46.]
160 cord_individual_obj[indivial_i,:] = [ 3. 4. 63. 67.]
161 cord_individual_obj[indivial_i,:] = [ 4. 4. 36. 40.]
162 cord_individual_obj[indivial_i,:] = [ 5. 4. 26. 30.]
163 cord_individual_obj[indivial_i,:] = [ 6. 3. 26. 29.]

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164 cord_individual_obj[indivial_i, :] = [7. 3. 5. 8.]
165 cord_individual_obj[indivial_i, :] = [8. 3. 6. 9.]
166 cord_individual_obj[indivial_i, :] = [9. 4. 15. 19.]
167 cord_individual_obj[indivial_i, :] = [10. 4. 42. 46.]
168 cord_individual_obj[indivial_i, :] = [11. 5. 64. 69.]
169 cord_individual_obj[indivial_i, :] = [12. 5. 26. 31.]
170 cord_individual_obj[indivial_i, :] = [13. 3. 6. 9.]
171 cord_individual_obj[indivial_i, :] = [14. 5. 7. 12.]
172 cord_individual_obj[indivial_i, :] = [15. 4. 42. 46.]
173 cord_individual_obj[indivial_i, :] = [16. 4. 42. 46.]
174 cord_individual_obj[indivial_i, :] = [17. 4. 111. 115.]
175 cord_individual_obj[indivial_i, :] = [18. 5. 65. 70.]
176 cord_individual_obj[indivial_i, :] = [19. 5. 73. 78.]
177 cord_individual_obj[indivial_i, :] = [20. 3. 65. 68.]
178 cord_individual_obj[indivial_i, :] = [21. 4. 61. 65.]
179 cord_individual_obj[indivial_i, :] = [22. 3. 26. 29.]
180 cord_individual_obj[indivial_i, :] = [23. 3. 6. 9.]
181 cord_individual_obj[indivial_i, :] = [24. 5. 44. 49.]
182
183 min(cord_individual_obj[:, 3]) = 8.0
184 historl_G_best_iter[iter, 3] = 8.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i, :] = [0. 6. 8. 14.]
189 cord_individual_obj[indivial_i, :] = [1. 3. 121. 124.]
190 cord_individual_obj[indivial_i, :] = [2. 3. 6. 9.]
191 cord_individual_obj[indivial_i, :] = [3. 5. 12. 17.]
192 cord_individual_obj[indivial_i, :] = [4. 4. 30. 34.]
193 cord_individual_obj[indivial_i, :] = [5. 4. 60. 64.]
194 cord_individual_obj[indivial_i, :] = [6. 3. 36. 39.]
195 cord_individual_obj[indivial_i, :] = [7. 6. 62. 68.]
196 cord_individual_obj[indivial_i, :] = [8. 3. 6. 9.]
197 cord_individual_obj[indivial_i, :] = [9. 5. 6. 11.]
198 cord_individual_obj[indivial_i, :] = [10. 5. 36. 41.]
199 cord_individual_obj[indivial_i, :] = [11. 6. 15. 21.]
200 cord_individual_obj[indivial_i, :] = [12. 4. 52. 56.]
201 cord_individual_obj[indivial_i, :] = [13. 5. 14. 19.]
202 cord_individual_obj[indivial_i, :] = [14. 6. 62. 68.]
203 cord_individual_obj[indivial_i, :] = [15. 6. 27. 33.]
204 cord_individual_obj[indivial_i, :] = [16. 5. 13. 18.]
205 cord_individual_obj[indivial_i, :] = [17. 3. 5. 8.]
206 cord_individual_obj[indivial_i, :] = [18. 5. 6. 11.]
207 cord_individual_obj[indivial_i, :] = [19. 6. 11. 17.]
208 cord_individual_obj[indivial_i, :] = [20. 3. 16. 19.]
209 cord_individual_obj[indivial_i, :] = [21. 5. 60. 65.]
210 cord_individual_obj[indivial_i, :] = [22. 4. 56. 60.]
211 cord_individual_obj[indivial_i, :] = [23. 4. 32. 36.]
212 cord_individual_obj[indivial_i, :] = [24. 5. 28. 33.]
213
214 min(cord_individual_obj[:, 3]) = 8.0
215 historl_G_best_iter[iter, 3] = 8.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i, :] = [0. 5. 26. 31.]
220 cord_individual_obj[indivial_i, :] = [1. 3. 5. 8.]
221 cord_individual_obj[indivial_i, :] = [2. 5. 8. 13.]
222 cord_individual_obj[indivial_i, :] = [3. 5. 55. 60.]
223 cord_individual_obj[indivial_i, :] = [4. 5. 42. 47.]
224 cord_individual_obj[indivial_i, :] = [5. 3. 36. 39.]
225 cord_individual_obj[indivial_i, :] = [6. 4. 29. 33.]
226 cord_individual_obj[indivial_i, :] = [7. 5. 84. 89.]
227 cord_individual_obj[indivial_i, :] = [8. 3. 6. 9.]
228 cord_individual_obj[indivial_i, :] = [9. 4. 6. 10.]
229 cord_individual_obj[indivial_i, :] = [10. 3. 136. 139.]
230 cord_individual_obj[indivial_i, :] = [11. 5. 8. 13.]
231 cord_individual_obj[indivial_i, :] = [12. 5. 17. 22.]
232 cord_individual_obj[indivial_i, :] = [13. 5. 70. 75.]
233 cord_individual_obj[indivial_i, :] = [14. 6. 26. 32.]
234 cord_individual_obj[indivial_i, :] = [15. 4. 22. 26.]
235 cord_individual_obj[indivial_i, :] = [16. 6. 8. 14.]
236 cord_individual_obj[indivial_i, :] = [17. 4. 55. 59.]
237 cord_individual_obj[indivial_i, :] = [18. 4. 6. 10.]
238 cord_individual_obj[indivial_i, :] = [19. 4. 53. 57.]
239 cord_individual_obj[indivial_i, :] = [20. 4. 10. 14.]
240 cord_individual_obj[indivial_i, :] = [21. 5. 85. 90.]
241 cord_individual_obj[indivial_i, :] = [22. 6. 26. 32.]
242 cord_individual_obj[indivial_i, :] = [23. 4. 32. 36.]
243 cord_individual_obj[indivial_i, :] = [24. 4. 108. 112.]
244
245 min(cord_individual_obj[:, 3]) = 8.0
246 historl_G_best_iter[iter, 3] = 8.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0. 3. 78. 81.]
251 cord_individual_obj[indivial_i, :] = [ 1. 5. 38. 43.]
252 cord_individual_obj[indivial_i, :] = [ 2. 5. 8. 13.]
253 cord_individual_obj[indivial_i, :] = [ 3. 4. 72. 76.]
254 cord_individual_obj[indivial_i, :] = [ 4. 5. 32. 37.]
255 cord_individual_obj[indivial_i, :] = [ 5. 4. 6. 10.]
256 cord_individual_obj[indivial_i, :] = [ 6. 4. 37. 41.]
257 cord_individual_obj[indivial_i, :] = [ 7. 3. 26. 29.]
258 cord_individual_obj[indivial_i, :] = [ 8. 3. 6. 9.]
259 cord_individual_obj[indivial_i, :] = [ 9. 5. 28. 33.]
260 cord_individual_obj[indivial_i, :] = [10. 3. 5. 8.]
261 cord_individual_obj[indivial_i, :] = [11. 6. 31. 37.]
262 cord_individual_obj[indivial_i, :] = [12. 4. 39. 43.]
263 cord_individual_obj[indivial_i, :] = [13. 6. 59. 65.]
264 cord_individual_obj[indivial_i, :] = [14. 7. 62. 69.]
265 cord_individual_obj[indivial_i, :] = [15. 5. 51. 56.]
266 cord_individual_obj[indivial_i, :] = [16. 4. 36. 40.]
267 cord_individual_obj[indivial_i, :] = [17. 4. 22. 26.]
268 cord_individual_obj[indivial_i, :] = [18. 4. 55. 59.]
269 cord_individual_obj[indivial_i, :] = [19. 5. 8. 13.]
270 cord_individual_obj[indivial_i, :] = [20. 3. 44. 47.]
271 cord_individual_obj[indivial_i, :] = [21. 6. 15. 21.]
272 cord_individual_obj[indivial_i, :] = [22. 5. 32. 37.]
273 cord_individual_obj[indivial_i, :] = [23. 5. 32. 37.]
274 cord_individual_obj[indivial_i, :] = [24. 5. 44. 49.]
275

276 min(cord_individual_obj[:, 3]) = 8.0
277 historl_G_best_iter[iter, 3] = 8.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [0. 3. 5. 8.]
282 cord_individual_obj[indivial_i, :] = [1. 4. 31. 35.]
283 cord_individual_obj[indivial_i, :] = [2. 3. 6. 9.]
284 cord_individual_obj[indivial_i, :] = [3. 5. 63. 68.]
285 cord_individual_obj[indivial_i, :] = [4. 5. 32. 37.]
286 cord_individual_obj[indivial_i, :] = [5. 4. 6. 10.]
287 cord_individual_obj[indivial_i, :] = [6. 4. 26. 30.]
288 cord_individual_obj[indivial_i, :] = [7. 4. 75. 79.]
289 cord_individual_obj[indivial_i, :] = [8. 3. 6. 9.]
290 cord_individual_obj[indivial_i, :] = [9. 6. 51. 57.]
291 cord_individual_obj[indivial_i, :] = [10. 4. 26. 30.]
292 cord_individual_obj[indivial_i, :] = [11. 4. 66. 70.]
293 cord_individual_obj[indivial_i, :] = [12. 6. 8. 14.]
294 cord_individual_obj[indivial_i, :] = [13. 4. 62. 66.]
295 cord_individual_obj[indivial_i, :] = [14. 6. 26. 32.]
296 cord_individual_obj[indivial_i, :] = [15. 3. 50. 53.]
297 cord_individual_obj[indivial_i, :] = [16. 5. 14. 19.]
298 cord_individual_obj[indivial_i, :] = [17. 5. 44. 49.]
299 cord_individual_obj[indivial_i, :] = [18. 6. 55. 61.]
300 cord_individual_obj[indivial_i, :] = [19. 5. 39. 44.]
301 cord_individual_obj[indivial_i, :] = [20. 5. 50. 55.]
302 cord_individual_obj[indivial_i, :] = [21. 5. 114. 119.]
303 cord_individual_obj[indivial_i, :] = [22. 5. 38. 43.]
304 cord_individual_obj[indivial_i, :] = [23. 6. 46. 52.]
305 cord_individual_obj[indivial_i, :] = [24. 7. 18. 25.]
306

307 min(cord_individual_obj[:, 3]) = 8.0
308 historl_G_best_iter[iter, 3] = 8.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0. 6. 14. 20.]
313 cord_individual_obj[indivial_i, :] = [ 1. 4. 84. 88.]
314 cord_individual_obj[indivial_i, :] = [ 2. 5. 6. 11.]
315 cord_individual_obj[indivial_i, :] = [ 3. 4. 52. 56.]
316 cord_individual_obj[indivial_i, :] = [ 4. 5. 44. 49.]
317 cord_individual_obj[indivial_i, :] = [ 5. 4. 76. 80.]
318 cord_individual_obj[indivial_i, :] = [ 6. 3. 26. 29.]
319 cord_individual_obj[indivial_i, :] = [ 7. 4. 22. 26.]
320 cord_individual_obj[indivial_i, :] = [ 8. 3. 6. 9.]
321 cord_individual_obj[indivial_i, :] = [ 9. 7. 26. 33.]
322 cord_individual_obj[indivial_i, :] = [10. 6. 38. 44.]
323 cord_individual_obj[indivial_i, :] = [11. 6. 9. 15.]
324 cord_individual_obj[indivial_i, :] = [12. 7. 56. 63.]
325 cord_individual_obj[indivial_i, :] = [13. 5. 48. 53.]
326 cord_individual_obj[indivial_i, :] = [14. 8. 22. 30.]
327 cord_individual_obj[indivial_i, :] = [15. 5. 27. 32.]
328 cord_individual_obj[indivial_i, :] = [16. 4. 47. 51.]
329 cord_individual_obj[indivial_i, :] = [17. 3. 44. 47.]
330 cord_individual_obj[indivial_i, :] = [18. 5. 6. 11.]
331 cord_individual_obj[indivial_i, :] = [19. 5. 60. 65.]

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332 cord_individual_obj[indivial_i, :] = [20. 4. 50. 54.]
333 cord_individual_obj[indivial_i, :] = [21. 3. 5. 8.]
334 cord_individual_obj[indivial_i, :] = [22. 5. 48. 53.]
335 cord_individual_obj[indivial_i, :] = [23. 4. 44. 48.]
336 cord_individual_obj[indivial_i, :] = [24. 5. 14. 19.]
337
338 min(cord_individual_obj[:, 3]) = 8.0
339 histol_G_best_iter[iter, 3] = 8.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i, :] = [ 0. 4. 60. 64.]
344 cord_individual_obj[indivial_i, :] = [1. 3. 5. 8.]
345 cord_individual_obj[indivial_i, :] = [2. 3. 6. 9.]
346 cord_individual_obj[indivial_i, :] = [ 3. 5. 69. 74.]
347 cord_individual_obj[indivial_i, :] = [ 4. 5. 58. 63.]
348 cord_individual_obj[indivial_i, :] = [ 5. 4. 55. 59.]
349 cord_individual_obj[indivial_i, :] = [ 6. 4. 22. 26.]
350 cord_individual_obj[indivial_i, :] = [ 7. 5. 65. 70.]
351 cord_individual_obj[indivial_i, :] = [ 8. 3. 6. 9.]
352 cord_individual_obj[indivial_i, :] = [ 9. 4. 58. 62.]
353 cord_individual_obj[indivial_i, :] = [10. 5. 101. 106.]
354 cord_individual_obj[indivial_i, :] = [11. 5. 31. 36.]
355 cord_individual_obj[indivial_i, :] = [12. 4. 6. 10.]
356 cord_individual_obj[indivial_i, :] = [13. 4. 12. 16.]
357 cord_individual_obj[indivial_i, :] = [14. 6. 38. 44.]
358 cord_individual_obj[indivial_i, :] = [15. 5. 26. 31.]
359 cord_individual_obj[indivial_i, :] = [16. 4. 15. 19.]
360 cord_individual_obj[indivial_i, :] = [17. 5. 44. 49.]
361 cord_individual_obj[indivial_i, :] = [18. 6. 55. 61.]
362 cord_individual_obj[indivial_i, :] = [19. 5. 8. 13.]
363 cord_individual_obj[indivial_i, :] = [20. 5. 42. 47.]
364 cord_individual_obj[indivial_i, :] = [21. 5. 71. 76.]
365 cord_individual_obj[indivial_i, :] = [22. 5. 17. 22.]
366 cord_individual_obj[indivial_i, :] = [23. 3. 6. 9.]
367 cord_individual_obj[indivial_i, :] = [24. 7. 16. 23.]
368
369 min(cord_individual_obj[:, 3]) = 8.0
370 histol_G_best_iter[iter, 3] = 8.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i, :] = [ 0. 5. 20. 25.]
375 cord_individual_obj[indivial_i, :] = [ 1. 5. 38. 43.]
376 cord_individual_obj[indivial_i, :] = [ 2. 5. 6. 11.]
377 cord_individual_obj[indivial_i, :] = [ 3. 6. 43. 49.]
378 cord_individual_obj[indivial_i, :] = [ 4. 5. 36. 41.]
379 cord_individual_obj[indivial_i, :] = [ 5. 5. 64. 69.]
380 cord_individual_obj[indivial_i, :] = [ 6. 3. 82. 85.]
381 cord_individual_obj[indivial_i, :] = [ 7. 4. 22. 26.]
382 cord_individual_obj[indivial_i, :] = [ 8. 3. 6. 9.]
383 cord_individual_obj[indivial_i, :] = [ 9. 4. 94. 98.]
384 cord_individual_obj[indivial_i, :] = [10. 3. 5. 8.]
385 cord_individual_obj[indivial_i, :] = [11. 7. 41. 48.]
386 cord_individual_obj[indivial_i, :] = [12. 7. 14. 21.]
387 cord_individual_obj[indivial_i, :] = [13. 3. 76. 79.]
388 cord_individual_obj[indivial_i, :] = [14. 7. 17. 24.]
389 cord_individual_obj[indivial_i, :] = [15. 4. 51. 55.]
390 cord_individual_obj[indivial_i, :] = [16. 4. 78. 82.]
391 cord_individual_obj[indivial_i, :] = [17. 4. 39. 43.]
392 cord_individual_obj[indivial_i, :] = [18. 5. 6. 11.]
393 cord_individual_obj[indivial_i, :] = [19. 5. 45. 50.]
394 cord_individual_obj[indivial_i, :] = [20. 7. 45. 52.]
395 cord_individual_obj[indivial_i, :] = [21. 5. 78. 83.]
396 cord_individual_obj[indivial_i, :] = [22. 5. 48. 53.]
397 cord_individual_obj[indivial_i, :] = [23. 4. 46. 50.]
398 cord_individual_obj[indivial_i, :] = [24. 3. 48. 51.]
399
400 min(cord_individual_obj[:, 3]) = 8.0
401 histol_G_best_iter[iter, 3] = 8.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i, :] = [ 0. 6. 43. 49.]
406 cord_individual_obj[indivial_i, :] = [ 1. 4. 87. 91.]
407 cord_individual_obj[indivial_i, :] = [ 2. 5. 8. 13.]
408 cord_individual_obj[indivial_i, :] = [ 3. 4. 46. 50.]
409 cord_individual_obj[indivial_i, :] = [ 4. 6. 17. 23.]
410 cord_individual_obj[indivial_i, :] = [ 5. 4. 48. 52.]
411 cord_individual_obj[indivial_i, :] = [ 6. 5. 29. 34.]
412 cord_individual_obj[indivial_i, :] = [ 7. 5. 80. 85.]
413 cord_individual_obj[indivial_i, :] = [ 8. 3. 6. 9.]
414 cord_individual_obj[indivial_i, :] = [ 9. 3. 5. 8.]
415 cord_individual_obj[indivial_i, :] = [10. 4. 26. 30.]

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416 cord_individual_obj[indivial_i,:] = [11. 5. 9. 14.]
417 cord_individual_obj[indivial_i,:] = [12. 5. 104. 109.]
418 cord_individual_obj[indivial_i,:] = [13. 3. 14. 17.]
419 cord_individual_obj[indivial_i,:] = [14. 5. 64. 69.]
420 cord_individual_obj[indivial_i,:] = [15. 4. 10. 14.]
421 cord_individual_obj[indivial_i,:] = [16. 7. 80. 87.]
422 cord_individual_obj[indivial_i,:] = [17. 4. 30. 34.]
423 cord_individual_obj[indivial_i,:] = [18. 4. 22. 26.]
424 cord_individual_obj[indivial_i,:] = [19. 4. 7. 11.]
425 cord_individual_obj[indivial_i,:] = [20. 4. 6. 10.]
426 cord_individual_obj[indivial_i,:] = [21. 4. 103. 107.]
427 cord_individual_obj[indivial_i,:] = [22. 5. 41. 46.]
428 cord_individual_obj[indivial_i,:] = [23. 4. 124. 128.]
429 cord_individual_obj[indivial_i,:] = [24. 3. 13. 16.]
430
431 min(cord_individual_obj[:,3]) = 8.0
432 histol_G_best_iter[iter,3] = 8.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [0. 6. 14. 20.]
437 cord_individual_obj[indivial_i,:] = [1. 5. 38. 43.]
438 cord_individual_obj[indivial_i,:] = [2. 5. 36. 41.]
439 cord_individual_obj[indivial_i,:] = [3. 6. 28. 34.]
440 cord_individual_obj[indivial_i,:] = [4. 5. 36. 41.]
441 cord_individual_obj[indivial_i,:] = [5. 4. 26. 30.]
442 cord_individual_obj[indivial_i,:] = [6. 6. 44. 50.]
443 cord_individual_obj[indivial_i,:] = [7. 5. 74. 79.]
444 cord_individual_obj[indivial_i,:] = [8. 3. 6. 9.]
445 cord_individual_obj[indivial_i,:] = [9. 5. 59. 64.]
446 cord_individual_obj[indivial_i,:] = [10. 4. 42. 46.]
447 cord_individual_obj[indivial_i,:] = [11. 5. 67. 72.]
448 cord_individual_obj[indivial_i,:] = [12. 5. 26. 31.]
449 cord_individual_obj[indivial_i,:] = [13. 4. 61. 65.]
450 cord_individual_obj[indivial_i,:] = [14. 5. 57. 62.]
451 cord_individual_obj[indivial_i,:] = [15. 6. 44. 50.]
452 cord_individual_obj[indivial_i,:] = [16. 5. 37. 42.]
453 cord_individual_obj[indivial_i,:] = [17. 4. 55. 59.]
454 cord_individual_obj[indivial_i,:] = [18. 4. 42. 46.]
455 cord_individual_obj[indivial_i,:] = [19. 5. 63. 68.]
456 cord_individual_obj[indivial_i,:] = [20. 3. 16. 19.]
457 cord_individual_obj[indivial_i,:] = [21. 5. 71. 76.]
458 cord_individual_obj[indivial_i,:] = [22. 5. 38. 43.]
459 cord_individual_obj[indivial_i,:] = [23. 3. 5. 8.]
460 cord_individual_obj[indivial_i,:] = [24. 6. 28. 34.]
461
462 min(cord_individual_obj[:,3]) = 8.0
463 histol_G_best_iter[iter,3] = 8.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [0. 5. 5. 10.]
468 cord_individual_obj[indivial_i,:] = [1. 4. 39. 43.]
469 cord_individual_obj[indivial_i,:] = [2. 4. 110. 114.]
470 cord_individual_obj[indivial_i,:] = [3. 3. 8. 11.]
471 cord_individual_obj[indivial_i,:] = [4. 5. 41. 46.]
472 cord_individual_obj[indivial_i,:] = [5. 4. 19. 23.]
473 cord_individual_obj[indivial_i,:] = [6. 5. 63. 68.]
474 cord_individual_obj[indivial_i,:] = [7. 3. 5. 8.]
475 cord_individual_obj[indivial_i,:] = [8. 3. 6. 9.]
476 cord_individual_obj[indivial_i,:] = [9. 4. 36. 40.]
477 cord_individual_obj[indivial_i,:] = [10. 5. 71. 76.]
478 cord_individual_obj[indivial_i,:] = [11. 7. 16. 23.]
479 cord_individual_obj[indivial_i,:] = [12. 4. 60. 64.]
480 cord_individual_obj[indivial_i,:] = [13. 4. 35. 39.]
481 cord_individual_obj[indivial_i,:] = [14. 6. 48. 54.]
482 cord_individual_obj[indivial_i,:] = [15. 5. 8. 13.]
483 cord_individual_obj[indivial_i,:] = [16. 5. 20. 25.]
484 cord_individual_obj[indivial_i,:] = [17. 6. 24. 30.]
485 cord_individual_obj[indivial_i,:] = [18. 5. 6. 11.]
486 cord_individual_obj[indivial_i,:] = [19. 5. 25. 30.]
487 cord_individual_obj[indivial_i,:] = [20. 3. 54. 57.]
488 cord_individual_obj[indivial_i,:] = [21. 4. 75. 79.]
489 cord_individual_obj[indivial_i,:] = [22. 4. 19. 23.]
490 cord_individual_obj[indivial_i,:] = [23. 3. 6. 9.]
491 cord_individual_obj[indivial_i,:] = [24. 5. 7. 12.]
492
493 min(cord_individual_obj[:,3]) = 8.0
494 histol_G_best_iter[iter,3] = 8.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [0. 4. 79. 83.]
499 cord_individual_obj[indivial_i,:] = [1. 4. 64. 68.]

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500 cord_individual_obj[indivial_i,:] = [2. 3. 5. 8.]
501 cord_individual_obj[indivial_i,:] = [3. 6. 63. 69.]
502 cord_individual_obj[indivial_i,:] = [4. 5. 28. 33.]
503 cord_individual_obj[indivial_i,:] = [5. 4. 26. 30.]
504 cord_individual_obj[indivial_i,:] = [6. 4. 50. 54.]
505 cord_individual_obj[indivial_i,:] = [7. 5. 66. 71.]
506 cord_individual_obj[indivial_i,:] = [8. 6. 39. 45.]
507 cord_individual_obj[indivial_i,:] = [9. 5. 7. 12.]
508 cord_individual_obj[indivial_i,:] = [10. 3. 74. 77.]
509 cord_individual_obj[indivial_i,:] = [11. 3. 42. 45.]
510 cord_individual_obj[indivial_i,:] = [12. 5. 27. 32.]
511 cord_individual_obj[indivial_i,:] = [13. 4. 6. 10.]
512 cord_individual_obj[indivial_i,:] = [14. 4. 26. 30.]
513 cord_individual_obj[indivial_i,:] = [15. 4. 61. 65.]
514 cord_individual_obj[indivial_i,:] = [16. 3. 60. 63.]
515 cord_individual_obj[indivial_i,:] = [17. 3. 42. 45.]
516 cord_individual_obj[indivial_i,:] = [18. 3. 42. 45.]
517 cord_individual_obj[indivial_i,:] = [19. 6. 74. 80.]
518 cord_individual_obj[indivial_i,:] = [20. 5. 42. 47.]
519 cord_individual_obj[indivial_i,:] = [21. 5. 70. 75.]
520 cord_individual_obj[indivial_i,:] = [22. 4. 26. 30.]
521 cord_individual_obj[indivial_i,:] = [23. 3. 6. 9.]
522 cord_individual_obj[indivial_i,:] = [24. 4. 63. 67.]
523
524 min(cord_individual_obj[:, 3]) = 8.0
525 histol_G_best_iter[iter, 3] = 8.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i,:] = [0. 3. 5. 8.]
530 cord_individual_obj[indivial_i,:] = [1. 5. 38. 43.]
531 cord_individual_obj[indivial_i,:] = [2. 3. 24. 27.]
532 cord_individual_obj[indivial_i,:] = [3. 6. 62. 68.]
533 cord_individual_obj[indivial_i,:] = [4. 6. 79. 85.]
534 cord_individual_obj[indivial_i,:] = [5. 5. 64. 69.]
535 cord_individual_obj[indivial_i,:] = [6. 6. 44. 50.]
536 cord_individual_obj[indivial_i,:] = [7. 6. 62. 68.]
537 cord_individual_obj[indivial_i,:] = [8. 3. 6. 9.]
538 cord_individual_obj[indivial_i,:] = [9. 4. 71. 75.]
539 cord_individual_obj[indivial_i,:] = [10. 4. 26. 30.]
540 cord_individual_obj[indivial_i,:] = [11. 5. 43. 48.]
541 cord_individual_obj[indivial_i,:] = [12. 5. 26. 31.]
542 cord_individual_obj[indivial_i,:] = [13. 4. 76. 80.]
543 cord_individual_obj[indivial_i,:] = [14. 4. 53. 57.]
544 cord_individual_obj[indivial_i,:] = [15. 6. 44. 50.]
545 cord_individual_obj[indivial_i,:] = [16. 4. 53. 57.]
546 cord_individual_obj[indivial_i,:] = [17. 4. 55. 59.]
547 cord_individual_obj[indivial_i,:] = [18. 4. 42. 46.]
548 cord_individual_obj[indivial_i,:] = [19. 5. 63. 68.]
549 cord_individual_obj[indivial_i,:] = [20. 5. 42. 47.]
550 cord_individual_obj[indivial_i,:] = [21. 5. 71. 76.]
551 cord_individual_obj[indivial_i,:] = [22. 5. 38. 43.]
552 cord_individual_obj[indivial_i,:] = [23. 4. 6. 10.]
553 cord_individual_obj[indivial_i,:] = [24. 6. 28. 34.]
554
555 min(cord_individual_obj[:, 3]) = 8.0
556 histol_G_best_iter[iter, 3] = 8.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i,:] = [0. 6. 8. 14.]
561 cord_individual_obj[indivial_i,:] = [1. 3. 87. 90.]
562 cord_individual_obj[indivial_i,:] = [2. 5. 14. 19.]
563 cord_individual_obj[indivial_i,:] = [3. 4. 42. 46.]
564 cord_individual_obj[indivial_i,:] = [4. 3. 5. 8.]
565 cord_individual_obj[indivial_i,:] = [5. 4. 62. 66.]
566 cord_individual_obj[indivial_i,:] = [6. 3. 26. 29.]
567 cord_individual_obj[indivial_i,:] = [7. 4. 7. 11.]
568 cord_individual_obj[indivial_i,:] = [8. 3. 6. 9.]
569 cord_individual_obj[indivial_i,:] = [9. 5. 59. 64.]
570 cord_individual_obj[indivial_i,:] = [10. 5. 36. 41.]
571 cord_individual_obj[indivial_i,:] = [11. 6. 63. 69.]
572 cord_individual_obj[indivial_i,:] = [12. 4. 92. 96.]
573 cord_individual_obj[indivial_i,:] = [13. 4. 12. 16.]
574 cord_individual_obj[indivial_i,:] = [14. 6. 26. 32.]
575 cord_individual_obj[indivial_i,:] = [15. 3. 16. 19.]
576 cord_individual_obj[indivial_i,:] = [16. 4. 6. 10.]
577 cord_individual_obj[indivial_i,:] = [17. 5. 24. 29.]
578 cord_individual_obj[indivial_i,:] = [18. 4. 6. 10.]
579 cord_individual_obj[indivial_i,:] = [19. 5. 21. 26.]
580 cord_individual_obj[indivial_i,:] = [20. 5. 26. 31.]
581 cord_individual_obj[indivial_i,:] = [21. 4. 59. 63.]
582 cord_individual_obj[indivial_i,:] = [22. 7. 113. 120.]
583 cord_individual_obj[indivial_i,:] = [23. 5. 38. 43.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 5. 28. 33.]  
585  
586     min(cord_individual_obj[:, 3]) = 8.0  
587     historl_G_best_iter[iter, 3] = 8.0  
588 Begin iteration:  
589  
590 iter = 18  
591     cord_individual_obj[indivial_i, :] = [ 0. 4. 8. 12.]  
592     cord_individual_obj[indivial_i, :] = [ 1. 3. 71. 74.]  
593     cord_individual_obj[indivial_i, :] = [ 2. 5. 7. 12.]  
594     cord_individual_obj[indivial_i, :] = [ 3. 5. 53. 58.]  
595     cord_individual_obj[indivial_i, :] = [ 4. 7. 52. 59.]  
596     cord_individual_obj[indivial_i, :] = [ 5. 4. 83. 87.]  
597     cord_individual_obj[indivial_i, :] = [ 6. 5. 7. 12.]  
598     cord_individual_obj[indivial_i, :] = [ 7. 3. 64. 67.]  
599     cord_individual_obj[indivial_i, :] = [ 8. 3. 6. 9.]  
600     cord_individual_obj[indivial_i, :] = [ 9. 3. 22. 25.]  
601     cord_individual_obj[indivial_i, :] = [10. 3. 102. 105.]  
602     cord_individual_obj[indivial_i, :] = [11. 5. 88. 93.]  
603     cord_individual_obj[indivial_i, :] = [12. 4. 106. 110.]  
604     cord_individual_obj[indivial_i, :] = [13. 3. 80. 83.]  
605     cord_individual_obj[indivial_i, :] = [14. 5. 94. 99.]  
606     cord_individual_obj[indivial_i, :] = [15. 4. 160. 164.]  
607     cord_individual_obj[indivial_i, :] = [16. 5. 37. 42.]  
608     cord_individual_obj[indivial_i, :] = [17. 5. 44. 49.]  
609     cord_individual_obj[indivial_i, :] = [18. 5. 6. 11.]  
610     cord_individual_obj[indivial_i, :] = [19. 4. 37. 41.]  
611     cord_individual_obj[indivial_i, :] = [20. 3. 70. 73.]  
612     cord_individual_obj[indivial_i, :] = [21. 5. 85. 90.]  
613     cord_individual_obj[indivial_i, :] = [22. 3. 5. 8.]  
614     cord_individual_obj[indivial_i, :] = [23. 4. 94. 98.]  
615     cord_individual_obj[indivial_i, :] = [24. 3. 66. 69.]  
616  
617     min(cord_individual_obj[:, 3]) = 8.0  
618     historl_G_best_iter[iter, 3] = 8.0  
619 Begin iteration:  
620  
621 iter = 19  
622     cord_individual_obj[indivial_i, :] = [ 0. 5. 62. 67.]  
623     cord_individual_obj[indivial_i, :] = [ 1. 4. 44. 48.]  
624     cord_individual_obj[indivial_i, :] = [ 2. 3. 16. 19.]  
625     cord_individual_obj[indivial_i, :] = [ 3. 5. 44. 49.]  
626     cord_individual_obj[indivial_i, :] = [ 4. 5. 87. 92.]  
627     cord_individual_obj[indivial_i, :] = [ 5. 5. 63. 68.]  
628     cord_individual_obj[indivial_i, :] = [ 6. 6. 44. 50.]  
629     cord_individual_obj[indivial_i, :] = [ 7. 5. 28. 33.]  
630     cord_individual_obj[indivial_i, :] = [ 8. 3. 5. 8.]  
631     cord_individual_obj[indivial_i, :] = [ 9. 6. 14. 20.]  
632     cord_individual_obj[indivial_i, :] = [10. 4. 26. 30.]  
633     cord_individual_obj[indivial_i, :] = [11. 4. 66. 70.]  
634     cord_individual_obj[indivial_i, :] = [12. 5. 26. 31.]  
635     cord_individual_obj[indivial_i, :] = [13. 4. 7. 11.]  
636     cord_individual_obj[indivial_i, :] = [14. 4. 6. 10.]  
637     cord_individual_obj[indivial_i, :] = [15. 3. 5. 8.]  
638     cord_individual_obj[indivial_i, :] = [16. 4. 44. 48.]  
639     cord_individual_obj[indivial_i, :] = [17. 4. 6. 10.]  
640     cord_individual_obj[indivial_i, :] = [18. 5. 65. 70.]  
641     cord_individual_obj[indivial_i, :] = [19. 6. 79. 85.]  
642     cord_individual_obj[indivial_i, :] = [20. 3. 16. 19.]  
643     cord_individual_obj[indivial_i, :] = [21. 4. 61. 65.]  
644     cord_individual_obj[indivial_i, :] = [22. 5. 38. 43.]  
645     cord_individual_obj[indivial_i, :] = [23. 4. 26. 30.]  
646     cord_individual_obj[indivial_i, :] = [24. 5. 44. 49.]  
647  
648     min(cord_individual_obj[:, 3]) = 8.0  
649     historl_G_best_iter[iter, 3] = 8.0  
650 Begin iteration:  
651  
652 iter = 20  
653     cord_individual_obj[indivial_i, :] = [ 0. 5. 44. 49.]  
654     cord_individual_obj[indivial_i, :] = [ 1. 3. 75. 78.]  
655     cord_individual_obj[indivial_i, :] = [ 2. 3. 76. 79.]  
656     cord_individual_obj[indivial_i, :] = [ 3. 5. 69. 74.]  
657     cord_individual_obj[indivial_i, :] = [ 4. 3. 5. 8.]  
658     cord_individual_obj[indivial_i, :] = [ 5. 4. 36. 40.]  
659     cord_individual_obj[indivial_i, :] = [ 6. 5. 28. 33.]  
660     cord_individual_obj[indivial_i, :] = [ 7. 5. 63. 68.]  
661     cord_individual_obj[indivial_i, :] = [ 8. 3. 6. 9.]  
662     cord_individual_obj[indivial_i, :] = [ 9. 5. 59. 64.]  
663     cord_individual_obj[indivial_i, :] = [10. 4. 36. 40.]  
664     cord_individual_obj[indivial_i, :] = [11. 5. 65. 70.]  
665     cord_individual_obj[indivial_i, :] = [12. 5. 6. 11.]  
666     cord_individual_obj[indivial_i, :] = [13. 3. 12. 15.]  
667     cord_individual_obj[indivial_i, :] = [14. 6. 38. 44.]
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668 cord_individual_obj[indivial_i, :] = [15. 7. 46. 53.]
669 cord_individual_obj[indivial_i, :] = [16. 5. 44. 49.]
670 cord_individual_obj[indivial_i, :] = [17. 4. 53. 57.]
671 cord_individual_obj[indivial_i, :] = [18. 5. 44. 49.]
672 cord_individual_obj[indivial_i, :] = [19. 6. 9. 15.]
673 cord_individual_obj[indivial_i, :] = [20. 5. 44. 49.]
674 cord_individual_obj[indivial_i, :] = [21. 5. 89. 94.]
675 cord_individual_obj[indivial_i, :] = [22. 7. 81. 88.]
676 cord_individual_obj[indivial_i, :] = [23. 4. 6. 10.]
677 cord_individual_obj[indivial_i, :] = [24. 5. 27. 32.]
678
679 min(cord_individual_obj[:, 3]) = 8.0
680 historl_G_best_iter[iter, 3] = 8.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 102.0
689 Proportion_of_area = 0.09444444444444444
690 BEST_CHROM =
691     berth: [ 4. 9.5 11. 15.5 3. 24.5 17. ]
692     time: [2. 0. 2. 1. 0. 0. 0.]
693     num_QC: [5. 4. 4. 2. 4. 2. 7.]
694 Objective function values and some other indicators:
695 Obj0 = 3.00          Obj1 = 5.00          Obj0 + Obj1 = 8.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 5.00
698 Total index of q during berthing: 455.00
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
    .           gama_i1 + 1: 4.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 120.0      work load_i:
701
    V_id: 1      li: 7.0      xi: 9.5      bow of i: 6.0      tail of i: 13.0      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: 160.0      work load_i:
702
    V_id: 2      li: 6.0      xi: 11.0      bow of i: 8.0      tail of i: 14.0      gama_i0: 2.0      gama_i1: 3
    .           gama_i1 + 1: 4.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 140.0      work
    .           load_i: 140.0      work load gap_i: 0
703
    V_id: 3      li: 3.0      xi: 15.5      bow of i: 14.0      tail of i: 17.0      gama_i0: 1.0      gama_i1: 3
    .           gama_i1 + 1: 4.0      gama_i1 - gama_i0: 2.0      duration_time_i: 3.0      demand_i: 100.0      work
    .           load_i: 100.0      work load gap_i: 0
704
    V_id: 4      li: 6.0      xi: 3.0      bow of i: 0.0      tail of i: 6.0      gama_i0: 0.0      gama_i1: 1.0
    .           gama_i1 + 1: 2.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 120.0      work load_i:
    .           load_i: 120.0      work load gap_i: 0
705
    V_id: 5      li: 7.0      xi: 24.5      bow of i: 21.0      tail of i: 28.0      gama_i0: 0.0      gama_i1: 2
    .           gama_i1 + 1: 3.0      gama_i1 - gama_i0: 2.0      duration_time_i: 3.0      demand_i: 120.0      work
    .           load_i: 120.0      work load gap_i: 0
706
    V_id: 6      li: 8.0      xi: 17.0      bow of i: 13.0      tail of i: 21.0      gama_i0: 0.0      gama_i1: 0
    .           gama_i1 + 1: 1.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 140.0      work
    .           load_i: 140.0      work load gap_i: 0
707
708 Algorithm finished and the total CPU time: 200 s
709 End
710

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