

unknown

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80 cord_individual_obj[indivial_i,:] = [16. 6. 22. 28.]
81 cord_individual_obj[indivial_i,:] = [17. 6. 65. 71.]
82 cord_individual_obj[indivial_i,:] = [18. 7. 74. 81.]
83 cord_individual_obj[indivial_i,:] = [19. 7. 55. 62.]
84 cord_individual_obj[indivial_i,:] = [20. 6. 69. 75.]
85 cord_individual_obj[indivial_i,:] = [21. 9. 34. 43.]
86 cord_individual_obj[indivial_i,:] = [22. 5. 31. 36.]
87 cord_individual_obj[indivial_i,:] = [23. 7. 43. 50.]
88 cord_individual_obj[indivial_i,:] = [24. 7. 32. 39.]
89
90 min(cord_individual_obj[:,3]) = 28.0
91 historl_G_best_iter[iter, 3] = 28.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 6. 56. 62.]
96 cord_individual_obj[indivial_i,:] = [ 1. 7. 40. 47.]
97 cord_individual_obj[indivial_i,:] = [ 2. 6. 61. 67.]
98 cord_individual_obj[indivial_i,:] = [ 3. 7. 122. 129.]
99 cord_individual_obj[indivial_i,:] = [ 4. 5. 72. 77.]
100 cord_individual_obj[indivial_i,:] = [ 5. 6. 110. 116.]
101 cord_individual_obj[indivial_i,:] = [ 6. 7. 62. 69.]
102 cord_individual_obj[indivial_i,:] = [ 7. 5. 102. 107.]
103 cord_individual_obj[indivial_i,:] = [ 8. 7. 40. 47.]
104 cord_individual_obj[indivial_i,:] = [ 9. 7. 42. 49.]
105 cord_individual_obj[indivial_i,:] = [10. 6. 57. 63.]
106 cord_individual_obj[indivial_i,:] = [11. 7. 71. 78.]
107 cord_individual_obj[indivial_i,:] = [12. 6. 108. 114.]
108 cord_individual_obj[indivial_i,:] = [13. 6. 22. 28.]
109 cord_individual_obj[indivial_i,:] = [14. 6. 75. 81.]
110 cord_individual_obj[indivial_i,:] = [15. 6. 63. 69.]
111 cord_individual_obj[indivial_i,:] = [16. 6. 45. 51.]
112 cord_individual_obj[indivial_i,:] = [17. 5. 50. 55.]
113 cord_individual_obj[indivial_i,:] = [18. 6. 72. 78.]
114 cord_individual_obj[indivial_i,:] = [19. 7. 56. 63.]
115 cord_individual_obj[indivial_i,:] = [20. 7. 80. 87.]
116 cord_individual_obj[indivial_i,:] = [21. 8. 96. 104.]
117 cord_individual_obj[indivial_i,:] = [22. 5. 43. 48.]
118 cord_individual_obj[indivial_i,:] = [23. 8. 127. 135.]
119 cord_individual_obj[indivial_i,:] = [24. 8. 57. 65.]
120
121 min(cord_individual_obj[:,3]) = 28.0
122 historl_G_best_iter[iter, 3] = 28.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 6. 118. 124.]
127 cord_individual_obj[indivial_i,:] = [ 1. 7. 94. 101.]
128 cord_individual_obj[indivial_i,:] = [ 2. 6. 75. 81.]
129 cord_individual_obj[indivial_i,:] = [ 3. 7. 123. 130.]
130 cord_individual_obj[indivial_i,:] = [ 4. 5. 68. 73.]
131 cord_individual_obj[indivial_i,:] = [ 5. 5. 73. 78.]
132 cord_individual_obj[indivial_i,:] = [ 6. 7. 54. 61.]
133 cord_individual_obj[indivial_i,:] = [ 7. 5. 105. 110.]
134 cord_individual_obj[indivial_i,:] = [ 8. 6. 87. 93.]
135 cord_individual_obj[indivial_i,:] = [ 9. 6. 51. 57.]
136 cord_individual_obj[indivial_i,:] = [10. 5. 70. 75.]
137 cord_individual_obj[indivial_i,:] = [11. 8. 102. 110.]
138 cord_individual_obj[indivial_i,:] = [12. 6. 83. 89.]
139 cord_individual_obj[indivial_i,:] = [13. 7. 44. 51.]
140 cord_individual_obj[indivial_i,:] = [14. 5. 80. 85.]
141 cord_individual_obj[indivial_i,:] = [15. 5. 63. 68.]
142 cord_individual_obj[indivial_i,:] = [16. 6. 64. 70.]
143 cord_individual_obj[indivial_i,:] = [17. 7. 96. 103.]
144 cord_individual_obj[indivial_i,:] = [18. 5. 82. 87.]
145 cord_individual_obj[indivial_i,:] = [19. 7. 79. 86.]
146 cord_individual_obj[indivial_i,:] = [20. 5. 56. 61.]
147 cord_individual_obj[indivial_i,:] = [21. 6. 102. 108.]
148 cord_individual_obj[indivial_i,:] = [22. 5. 69. 74.]
149 cord_individual_obj[indivial_i,:] = [23. 6. 22. 28.]
150 cord_individual_obj[indivial_i,:] = [24. 8. 82. 90.]
151
152 min(cord_individual_obj[:,3]) = 28.0
153 historl_G_best_iter[iter, 3] = 28.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 5. 72. 77.]
158 cord_individual_obj[indivial_i,:] = [ 1. 7. 74. 81.]
159 cord_individual_obj[indivial_i,:] = [ 2. 7. 58. 65.]
160 cord_individual_obj[indivial_i,:] = [ 3. 6. 22. 28.]
161 cord_individual_obj[indivial_i,:] = [ 4. 7. 81. 88.]
162 cord_individual_obj[indivial_i,:] = [ 5. 8. 96. 104.]
163 cord_individual_obj[indivial_i,:] = [ 6. 7. 106. 113.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 5. 106. 111.]
165 cord_individual_obj[indivial_i,:] = [ 8. 6. 58. 64.]
166 cord_individual_obj[indivial_i,:] = [ 9. 7. 73. 80.]
167 cord_individual_obj[indivial_i,:] = [10. 6. 34. 40.]
168 cord_individual_obj[indivial_i,:] = [11. 6. 54. 60.]
169 cord_individual_obj[indivial_i,:] = [12. 8. 108. 116.]
170 cord_individual_obj[indivial_i,:] = [13. 8. 72. 80.]
171 cord_individual_obj[indivial_i,:] = [14. 6. 76. 82.]
172 cord_individual_obj[indivial_i,:] = [15. 5. 65. 70.]
173 cord_individual_obj[indivial_i,:] = [16. 6. 56. 62.]
174 cord_individual_obj[indivial_i,:] = [17. 7. 101. 108.]
175 cord_individual_obj[indivial_i,:] = [18. 6. 48. 54.]
176 cord_individual_obj[indivial_i,:] = [19. 9. 31. 40.]
177 cord_individual_obj[indivial_i,:] = [20. 7. 80. 87.]
178 cord_individual_obj[indivial_i,:] = [21. 7. 41. 48.]
179 cord_individual_obj[indivial_i,:] = [22. 6. 27. 33.]
180 cord_individual_obj[indivial_i,:] = [23. 6. 95. 101.]
181 cord_individual_obj[indivial_i,:] = [24. 7. 79. 86.]
182
183 min(cord_individual_obj[:,3]) = 28.0
184 historl_G_best_iter[iter,3] = 28.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 8. 79. 87.]
189 cord_individual_obj[indivial_i,:] = [ 1. 6. 72. 78.]
190 cord_individual_obj[indivial_i,:] = [ 2. 6. 83. 89.]
191 cord_individual_obj[indivial_i,:] = [ 3. 7. 125. 132.]
192 cord_individual_obj[indivial_i,:] = [ 4. 6. 61. 67.]
193 cord_individual_obj[indivial_i,:] = [ 5. 5. 82. 87.]
194 cord_individual_obj[indivial_i,:] = [ 6. 8. 65. 73.]
195 cord_individual_obj[indivial_i,:] = [ 7. 6. 52. 58.]
196 cord_individual_obj[indivial_i,:] = [ 8. 7. 28. 35.]
197 cord_individual_obj[indivial_i,:] = [ 9. 7. 43. 50.]
198 cord_individual_obj[indivial_i,:] = [10. 5. 29. 34.]
199 cord_individual_obj[indivial_i,:] = [11. 7. 128. 135.]
200 cord_individual_obj[indivial_i,:] = [12. 6. 22. 28.]
201 cord_individual_obj[indivial_i,:] = [13. 8. 52. 60.]
202 cord_individual_obj[indivial_i,:] = [14. 9. 37. 46.]
203 cord_individual_obj[indivial_i,:] = [15. 8. 46. 54.]
204 cord_individual_obj[indivial_i,:] = [16. 7. 104. 111.]
205 cord_individual_obj[indivial_i,:] = [17. 6. 64. 70.]
206 cord_individual_obj[indivial_i,:] = [18. 6. 52. 58.]
207 cord_individual_obj[indivial_i,:] = [19. 6. 121. 127.]
208 cord_individual_obj[indivial_i,:] = [20. 8. 68. 76.]
209 cord_individual_obj[indivial_i,:] = [21. 7. 32. 39.]
210 cord_individual_obj[indivial_i,:] = [22. 6. 38. 44.]
211 cord_individual_obj[indivial_i,:] = [23. 7. 98. 105.]
212 cord_individual_obj[indivial_i,:] = [24. 7. 62. 69.]
213
214 min(cord_individual_obj[:,3]) = 28.0
215 historl_G_best_iter[iter,3] = 28.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 5. 61. 66.]
220 cord_individual_obj[indivial_i,:] = [ 1. 6. 68. 74.]
221 cord_individual_obj[indivial_i,:] = [ 2. 6. 59. 65.]
222 cord_individual_obj[indivial_i,:] = [ 3. 7. 156. 163.]
223 cord_individual_obj[indivial_i,:] = [ 4. 4. 93. 97.]
224 cord_individual_obj[indivial_i,:] = [ 5. 6. 49. 55.]
225 cord_individual_obj[indivial_i,:] = [ 6. 7. 88. 95.]
226 cord_individual_obj[indivial_i,:] = [ 7. 6. 78. 84.]
227 cord_individual_obj[indivial_i,:] = [ 8. 6. 87. 93.]
228 cord_individual_obj[indivial_i,:] = [ 9. 6. 83. 89.]
229 cord_individual_obj[indivial_i,:] = [10. 7. 58. 65.]
230 cord_individual_obj[indivial_i,:] = [11. 6. 22. 28.]
231 cord_individual_obj[indivial_i,:] = [12. 7. 127. 134.]
232 cord_individual_obj[indivial_i,:] = [13. 7. 44. 51.]
233 cord_individual_obj[indivial_i,:] = [14. 7. 61. 68.]
234 cord_individual_obj[indivial_i,:] = [15. 7. 40. 47.]
235 cord_individual_obj[indivial_i,:] = [16. 5. 73. 78.]
236 cord_individual_obj[indivial_i,:] = [17. 8. 62. 70.]
237 cord_individual_obj[indivial_i,:] = [18. 5. 71. 76.]
238 cord_individual_obj[indivial_i,:] = [19. 6. 104. 110.]
239 cord_individual_obj[indivial_i,:] = [20. 7. 59. 66.]
240 cord_individual_obj[indivial_i,:] = [21. 7. 79. 86.]
241 cord_individual_obj[indivial_i,:] = [22. 5. 64. 69.]
242 cord_individual_obj[indivial_i,:] = [23. 6. 104. 110.]
243 cord_individual_obj[indivial_i,:] = [24. 7. 51. 58.]
244
245 min(cord_individual_obj[:,3]) = 28.0
246 historl_G_best_iter[iter,3] = 28.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0. 6. 61. 67.]
251 cord_individual_obj[indivial_i, :] = [ 1. 7. 70. 77.]
252 cord_individual_obj[indivial_i, :] = [ 2. 6. 70. 76.]
253 cord_individual_obj[indivial_i, :] = [ 3. 6. 22. 28.]
254 cord_individual_obj[indivial_i, :] = [ 4. 6. 81. 87.]
255 cord_individual_obj[indivial_i, :] = [ 5. 6. 67. 73.]
256 cord_individual_obj[indivial_i, :] = [ 6. 7. 65. 72.]
257 cord_individual_obj[indivial_i, :] = [ 7. 6. 62. 68.]
258 cord_individual_obj[indivial_i, :] = [ 8. 6. 43. 49.]
259 cord_individual_obj[indivial_i, :] = [ 9. 6. 51. 57.]
260 cord_individual_obj[indivial_i, :] = [10. 5. 32. 37.]
261 cord_individual_obj[indivial_i, :] = [11. 7. 54. 61.]
262 cord_individual_obj[indivial_i, :] = [12. 7. 127. 134.]
263 cord_individual_obj[indivial_i, :] = [13. 8. 56. 64.]
264 cord_individual_obj[indivial_i, :] = [14. 7. 38. 45.]
265 cord_individual_obj[indivial_i, :] = [15. 8. 91. 99.]
266 cord_individual_obj[indivial_i, :] = [16. 6. 80. 86.]
267 cord_individual_obj[indivial_i, :] = [17. 7. 111. 118.]
268 cord_individual_obj[indivial_i, :] = [18. 6. 71. 77.]
269 cord_individual_obj[indivial_i, :] = [19. 7. 65. 72.]
270 cord_individual_obj[indivial_i, :] = [20. 8. 56. 64.]
271 cord_individual_obj[indivial_i, :] = [21. 7. 67. 74.]
272 cord_individual_obj[indivial_i, :] = [22. 5. 59. 64.]
273 cord_individual_obj[indivial_i, :] = [23. 7. 95. 102.]
274 cord_individual_obj[indivial_i, :] = [24. 8. 44. 52.]
275

276 min(cord_individual_obj[:, 3]) = 28.0
277 historl_G_best_iter[iter, 3] = 28.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0. 6. 116. 122.]
282 cord_individual_obj[indivial_i, :] = [ 1. 6. 60. 66.]
283 cord_individual_obj[indivial_i, :] = [ 2. 5. 54. 59.]
284 cord_individual_obj[indivial_i, :] = [ 3. 7. 129. 136.]
285 cord_individual_obj[indivial_i, :] = [ 4. 6. 81. 87.]
286 cord_individual_obj[indivial_i, :] = [ 5. 7. 70. 77.]
287 cord_individual_obj[indivial_i, :] = [ 6. 7. 68. 75.]
288 cord_individual_obj[indivial_i, :] = [ 7. 5. 59. 64.]
289 cord_individual_obj[indivial_i, :] = [ 8. 7. 83. 90.]
290 cord_individual_obj[indivial_i, :] = [ 9. 6. 85. 91.]
291 cord_individual_obj[indivial_i, :] = [10. 7. 49. 56.]
292 cord_individual_obj[indivial_i, :] = [11. 7. 61. 68.]
293 cord_individual_obj[indivial_i, :] = [12. 6. 22. 28.]
294 cord_individual_obj[indivial_i, :] = [13. 7. 44. 51.]
295 cord_individual_obj[indivial_i, :] = [14. 8. 63. 71.]
296 cord_individual_obj[indivial_i, :] = [15. 8. 63. 71.]
297 cord_individual_obj[indivial_i, :] = [16. 5. 65. 70.]
298 cord_individual_obj[indivial_i, :] = [17. 7. 111. 118.]
299 cord_individual_obj[indivial_i, :] = [18. 6. 77. 83.]
300 cord_individual_obj[indivial_i, :] = [19. 6. 78. 84.]
301 cord_individual_obj[indivial_i, :] = [20. 8. 83. 91.]
302 cord_individual_obj[indivial_i, :] = [21. 7. 79. 86.]
303 cord_individual_obj[indivial_i, :] = [22. 5. 44. 49.]
304 cord_individual_obj[indivial_i, :] = [23. 7. 105. 112.]
305 cord_individual_obj[indivial_i, :] = [24. 7. 51. 58.]
306

307 min(cord_individual_obj[:, 3]) = 28.0
308 historl_G_best_iter[iter, 3] = 28.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0. 7. 118. 125.]
313 cord_individual_obj[indivial_i, :] = [ 1. 6. 92. 98.]
314 cord_individual_obj[indivial_i, :] = [ 2. 5. 46. 51.]
315 cord_individual_obj[indivial_i, :] = [ 3. 6. 22. 28.]
316 cord_individual_obj[indivial_i, :] = [ 4. 5. 84. 89.]
317 cord_individual_obj[indivial_i, :] = [ 5. 6. 80. 86.]
318 cord_individual_obj[indivial_i, :] = [ 6. 7. 88. 95.]
319 cord_individual_obj[indivial_i, :] = [ 7. 5. 49. 54.]
320 cord_individual_obj[indivial_i, :] = [ 8. 8. 83. 91.]
321 cord_individual_obj[indivial_i, :] = [ 9. 7. 107. 114.]
322 cord_individual_obj[indivial_i, :] = [10. 6. 55. 61.]
323 cord_individual_obj[indivial_i, :] = [11. 7. 61. 68.]
324 cord_individual_obj[indivial_i, :] = [12. 7. 127. 134.]
325 cord_individual_obj[indivial_i, :] = [13. 9. 59. 68.]
326 cord_individual_obj[indivial_i, :] = [14. 7. 73. 80.]
327 cord_individual_obj[indivial_i, :] = [15. 8. 91. 99.]
328 cord_individual_obj[indivial_i, :] = [16. 6. 88. 94.]
329 cord_individual_obj[indivial_i, :] = [17. 7. 112. 119.]
330 cord_individual_obj[indivial_i, :] = [18. 5. 48. 53.]
331 cord_individual_obj[indivial_i, :] = [19. 5. 62. 67.]

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332 cord_individual_obj[indivial_i,:] = [20. 7. 80. 87.]
333 cord_individual_obj[indivial_i,:] = [21. 8. 63. 71.]
334 cord_individual_obj[indivial_i,:] = [22. 5. 80. 85.]
335 cord_individual_obj[indivial_i,:] = [23. 7. 97. 104.]
336 cord_individual_obj[indivial_i,:] = [24. 7. 43. 50.]
337
338 min(cord_individual_obj[:,3]) = 28.0
339 histol_G_best_iter[iter,3] = 28.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i,:] = [ 0. 7. 38. 45.]
344 cord_individual_obj[indivial_i,:] = [ 1. 6. 45. 51.]
345 cord_individual_obj[indivial_i,:] = [ 2. 7. 24. 31.]
346 cord_individual_obj[indivial_i,:] = [ 3. 7. 125. 132.]
347 cord_individual_obj[indivial_i,:] = [ 4. 8. 21. 29.]
348 cord_individual_obj[indivial_i,:] = [ 5. 6. 71. 77.]
349 cord_individual_obj[indivial_i,:] = [ 6. 6. 38. 44.]
350 cord_individual_obj[indivial_i,:] = [ 7. 6. 64. 70.]
351 cord_individual_obj[indivial_i,:] = [ 8. 7. 26. 33.]
352 cord_individual_obj[indivial_i,:] = [ 9. 6. 43. 49.]
353 cord_individual_obj[indivial_i,:] = [10. 8. 54. 62.]
354 cord_individual_obj[indivial_i,:] = [11. 7. 54. 61.]
355 cord_individual_obj[indivial_i,:] = [12. 6. 22. 28.]
356 cord_individual_obj[indivial_i,:] = [13. 8. 38. 46.]
357 cord_individual_obj[indivial_i,:] = [14. 6. 58. 64.]
358 cord_individual_obj[indivial_i,:] = [15. 9. 57. 66.]
359 cord_individual_obj[indivial_i,:] = [16. 7. 28. 35.]
360 cord_individual_obj[indivial_i,:] = [17. 5. 91. 96.]
361 cord_individual_obj[indivial_i,:] = [18. 7. 23. 30.]
362 cord_individual_obj[indivial_i,:] = [19. 7. 37. 44.]
363 cord_individual_obj[indivial_i,:] = [20. 6. 23. 29.]
364 cord_individual_obj[indivial_i,:] = [21. 8. 61. 69.]
365 cord_individual_obj[indivial_i,:] = [22. 7. 50. 57.]
366 cord_individual_obj[indivial_i,:] = [23. 7. 40. 47.]
367 cord_individual_obj[indivial_i,:] = [24. 8. 26. 34.]
368
369 min(cord_individual_obj[:,3]) = 28.0
370 histol_G_best_iter[iter,3] = 28.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i,:] = [ 0. 5. 74. 79.]
375 cord_individual_obj[indivial_i,:] = [ 1. 6. 38. 44.]
376 cord_individual_obj[indivial_i,:] = [ 2. 7. 57. 64.]
377 cord_individual_obj[indivial_i,:] = [ 3. 6. 22. 28.]
378 cord_individual_obj[indivial_i,:] = [ 4. 6. 114. 120.]
379 cord_individual_obj[indivial_i,:] = [ 5. 6. 33. 39.]
380 cord_individual_obj[indivial_i,:] = [ 6. 5. 83. 88.]
381 cord_individual_obj[indivial_i,:] = [ 7. 5. 50. 55.]
382 cord_individual_obj[indivial_i,:] = [ 8. 7. 41. 48.]
383 cord_individual_obj[indivial_i,:] = [ 9. 6. 45. 51.]
384 cord_individual_obj[indivial_i,:] = [10. 6. 86. 92.]
385 cord_individual_obj[indivial_i,:] = [11. 7. 37. 44.]
386 cord_individual_obj[indivial_i,:] = [12. 7. 127. 134.]
387 cord_individual_obj[indivial_i,:] = [13. 7. 57. 64.]
388 cord_individual_obj[indivial_i,:] = [14. 7. 87. 94.]
389 cord_individual_obj[indivial_i,:] = [15. 5. 31. 36.]
390 cord_individual_obj[indivial_i,:] = [16. 5. 98. 103.]
391 cord_individual_obj[indivial_i,:] = [17. 7. 63. 70.]
392 cord_individual_obj[indivial_i,:] = [18. 5. 43. 48.]
393 cord_individual_obj[indivial_i,:] = [19. 7. 27. 34.]
394 cord_individual_obj[indivial_i,:] = [20. 6. 68. 74.]
395 cord_individual_obj[indivial_i,:] = [21. 6. 57. 63.]
396 cord_individual_obj[indivial_i,:] = [22. 6. 82. 88.]
397 cord_individual_obj[indivial_i,:] = [23. 6. 47. 53.]
398 cord_individual_obj[indivial_i,:] = [24. 7. 73. 80.]
399
400 min(cord_individual_obj[:,3]) = 28.0
401 histol_G_best_iter[iter,3] = 28.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i,:] = [ 0. 7. 88. 95.]
406 cord_individual_obj[indivial_i,:] = [ 1. 7. 41. 48.]
407 cord_individual_obj[indivial_i,:] = [ 2. 5. 69. 74.]
408 cord_individual_obj[indivial_i,:] = [ 3. 7. 125. 132.]
409 cord_individual_obj[indivial_i,:] = [ 4. 5. 63. 68.]
410 cord_individual_obj[indivial_i,:] = [ 5. 7. 47. 54.]
411 cord_individual_obj[indivial_i,:] = [ 6. 7. 42. 49.]
412 cord_individual_obj[indivial_i,:] = [ 7. 5. 105. 110.]
413 cord_individual_obj[indivial_i,:] = [ 8. 6. 51. 57.]
414 cord_individual_obj[indivial_i,:] = [ 9. 7. 59. 66.]
415 cord_individual_obj[indivial_i,:] = [10. 7. 60. 67.]

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416 cord_individual_obj[indivial_i,:] = [ 11. 7. 107. 114.]
417 cord_individual_obj[indivial_i,:] = [12. 6. 22. 28.]
418 cord_individual_obj[indivial_i,:] = [13. 9. 42. 51.]
419 cord_individual_obj[indivial_i,:] = [14. 6. 45. 51.]
420 cord_individual_obj[indivial_i,:] = [15. 8. 60. 68.]
421 cord_individual_obj[indivial_i,:] = [16. 8. 40. 48.]
422 cord_individual_obj[indivial_i,:] = [17. 7. 79. 86.]
423 cord_individual_obj[indivial_i,:] = [18. 7. 48. 55.]
424 cord_individual_obj[indivial_i,:] = [19. 8. 42. 50.]
425 cord_individual_obj[indivial_i,:] = [20. 7. 62. 69.]
426 cord_individual_obj[indivial_i,:] = [21. 8. 72. 80.]
427 cord_individual_obj[indivial_i,:] = [22. 6. 54. 60.]
428 cord_individual_obj[indivial_i,:] = [23. 6. 91. 97.]
429 cord_individual_obj[indivial_i,:] = [24. 8. 51. 59.]
430
431 min(cord_individual_obj[:,3]) = 28.0
432 histol_G_best_iter[iter,3] = 28.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 6. 70. 76.]
437 cord_individual_obj[indivial_i,:] = [ 1. 7. 52. 59.]
438 cord_individual_obj[indivial_i,:] = [ 2. 5. 117. 122.]
439 cord_individual_obj[indivial_i,:] = [ 3. 6. 22. 28.]
440 cord_individual_obj[indivial_i,:] = [ 4. 7. 81. 88.]
441 cord_individual_obj[indivial_i,:] = [ 5. 6. 60. 66.]
442 cord_individual_obj[indivial_i,:] = [ 6. 8. 61. 69.]
443 cord_individual_obj[indivial_i,:] = [ 7. 5. 61. 66.]
444 cord_individual_obj[indivial_i,:] = [ 8. 6. 43. 49.]
445 cord_individual_obj[indivial_i,:] = [ 9. 7. 65. 72.]
446 cord_individual_obj[indivial_i,:] = [10. 5. 32. 37.]
447 cord_individual_obj[indivial_i,:] = [11. 7. 109. 116.]
448 cord_individual_obj[indivial_i,:] = [12. 7. 127. 134.]
449 cord_individual_obj[indivial_i,:] = [13. 8. 44. 52.]
450 cord_individual_obj[indivial_i,:] = [14. 7. 41. 48.]
451 cord_individual_obj[indivial_i,:] = [15. 8. 42. 50.]
452 cord_individual_obj[indivial_i,:] = [16. 7. 93. 100.]
453 cord_individual_obj[indivial_i,:] = [17. 7. 122. 129.]
454 cord_individual_obj[indivial_i,:] = [18. 6. 48. 54.]
455 cord_individual_obj[indivial_i,:] = [19. 6. 79. 85.]
456 cord_individual_obj[indivial_i,:] = [20. 8. 82. 90.]
457 cord_individual_obj[indivial_i,:] = [21. 7. 67. 74.]
458 cord_individual_obj[indivial_i,:] = [22. 5. 46. 51.]
459 cord_individual_obj[indivial_i,:] = [23. 7. 97. 104.]
460 cord_individual_obj[indivial_i,:] = [24. 8. 46. 54.]
461
462 min(cord_individual_obj[:,3]) = 28.0
463 histol_G_best_iter[iter,3] = 28.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 6. 49. 55.]
468 cord_individual_obj[indivial_i,:] = [ 1. 7. 100. 107.]
469 cord_individual_obj[indivial_i,:] = [ 2. 8. 25. 33.]
470 cord_individual_obj[indivial_i,:] = [ 3. 7. 127. 134.]
471 cord_individual_obj[indivial_i,:] = [ 4. 7. 63. 70.]
472 cord_individual_obj[indivial_i,:] = [ 5. 6. 60. 66.]
473 cord_individual_obj[indivial_i,:] = [ 6. 8. 48. 56.]
474 cord_individual_obj[indivial_i,:] = [ 7. 9. 98. 107.]
475 cord_individual_obj[indivial_i,:] = [ 8. 6. 39. 45.]
476 cord_individual_obj[indivial_i,:] = [ 9. 6. 41. 47.]
477 cord_individual_obj[indivial_i,:] = [10. 5. 69. 74.]
478 cord_individual_obj[indivial_i,:] = [11. 6. 78. 84.]
479 cord_individual_obj[indivial_i,:] = [12. 6. 22. 28.]
480 cord_individual_obj[indivial_i,:] = [13. 8. 28. 36.]
481 cord_individual_obj[indivial_i,:] = [14. 6. 63. 69.]
482 cord_individual_obj[indivial_i,:] = [15. 7. 69. 76.]
483 cord_individual_obj[indivial_i,:] = [16. 6. 88. 94.]
484 cord_individual_obj[indivial_i,:] = [17. 5. 54. 59.]
485 cord_individual_obj[indivial_i,:] = [18. 6. 55. 61.]
486 cord_individual_obj[indivial_i,:] = [19. 9. 41. 50.]
487 cord_individual_obj[indivial_i,:] = [20. 7. 90. 97.]
488 cord_individual_obj[indivial_i,:] = [21. 8. 44. 52.]
489 cord_individual_obj[indivial_i,:] = [22. 7. 25. 32.]
490 cord_individual_obj[indivial_i,:] = [23. 7. 24. 31.]
491 cord_individual_obj[indivial_i,:] = [24. 7. 30. 37.]
492
493 min(cord_individual_obj[:,3]) = 28.0
494 histol_G_best_iter[iter,3] = 28.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 5. 156. 161.]
499 cord_individual_obj[indivial_i,:] = [ 1. 6. 82. 88.]

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500 cord_individual_obj[indivial_i,:] = [ 2. 7. 55. 62.]
501 cord_individual_obj[indivial_i,:] = [ 3. 6. 22. 28.]
502 cord_individual_obj[indivial_i,:] = [ 4. 5. 123. 128.]
503 cord_individual_obj[indivial_i,:] = [ 5. 7. 103. 110.]
504 cord_individual_obj[indivial_i,:] = [ 6. 8. 37. 45.]
505 cord_individual_obj[indivial_i,:] = [ 7. 6. 54. 60.]
506 cord_individual_obj[indivial_i,:] = [ 8. 6. 65. 71.]
507 cord_individual_obj[indivial_i,:] = [ 9. 6. 113. 119.]
508 cord_individual_obj[indivial_i,:] = [10. 6. 48. 54.]
509 cord_individual_obj[indivial_i,:] = [11. 7. 116. 123.]
510 cord_individual_obj[indivial_i,:] = [12. 6. 108. 114.]
511 cord_individual_obj[indivial_i,:] = [13. 7. 92. 99.]
512 cord_individual_obj[indivial_i,:] = [14. 7. 40. 47.]
513 cord_individual_obj[indivial_i,:] = [15. 7. 64. 71.]
514 cord_individual_obj[indivial_i,:] = [16. 7. 23. 30.]
515 cord_individual_obj[indivial_i,:] = [17. 5. 71. 76.]
516 cord_individual_obj[indivial_i,:] = [18. 7. 78. 85.]
517 cord_individual_obj[indivial_i,:] = [19. 7. 103. 110.]
518 cord_individual_obj[indivial_i,:] = [20. 6. 143. 149.]
519 cord_individual_obj[indivial_i,:] = [21. 7. 107. 114.]
520 cord_individual_obj[indivial_i,:] = [22. 5. 104. 109.]
521 cord_individual_obj[indivial_i,:] = [23. 6. 105. 111.]
522 cord_individual_obj[indivial_i,:] = [24. 7. 103. 110.]
523
524 min(cord_individual_obj[:, 3]) = 28.0
525 histol_G_best_iter[iter, 3] = 28.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i,:] = [ 0. 6. 22. 28.]
530 cord_individual_obj[indivial_i,:] = [ 1. 6. 84. 90.]
531 cord_individual_obj[indivial_i,:] = [ 2. 6. 28. 34.]
532 cord_individual_obj[indivial_i,:] = [ 3. 7. 125. 132.]
533 cord_individual_obj[indivial_i,:] = [ 4. 8. 35. 43.]
534 cord_individual_obj[indivial_i,:] = [ 5. 6. 57. 63.]
535 cord_individual_obj[indivial_i,:] = [ 6. 6. 73. 79.]
536 cord_individual_obj[indivial_i,:] = [ 7. 7. 96. 103.]
537 cord_individual_obj[indivial_i,:] = [ 8. 8. 74. 82.]
538 cord_individual_obj[indivial_i,:] = [ 9. 6. 75. 81.]
539 cord_individual_obj[indivial_i,:] = [10. 7. 48. 55.]
540 cord_individual_obj[indivial_i,:] = [11. 7. 30. 37.]
541 cord_individual_obj[indivial_i,:] = [12. 6. 89. 95.]
542 cord_individual_obj[indivial_i,:] = [13. 8. 41. 49.]
543 cord_individual_obj[indivial_i,:] = [14. 7. 47. 54.]
544 cord_individual_obj[indivial_i,:] = [15. 8. 51. 59.]
545 cord_individual_obj[indivial_i,:] = [16. 7. 49. 56.]
546 cord_individual_obj[indivial_i,:] = [17. 8. 81. 89.]
547 cord_individual_obj[indivial_i,:] = [18. 7. 31. 38.]
548 cord_individual_obj[indivial_i,:] = [19. 6. 49. 55.]
549 cord_individual_obj[indivial_i,:] = [20. 6. 20. 26.]
550 cord_individual_obj[indivial_i,:] = [21. 7. 31. 38.]
551 cord_individual_obj[indivial_i,:] = [22. 8. 28. 36.]
552 cord_individual_obj[indivial_i,:] = [23. 7. 29. 36.]
553 cord_individual_obj[indivial_i,:] = [24. 6. 38. 44.]
554
555 min(cord_individual_obj[:, 3]) = 26.0
556 histol_G_best_iter[iter, 3] = 26.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i,:] = [ 0. 8. 61. 69.]
561 cord_individual_obj[indivial_i,:] = [ 1. 6. 72. 78.]
562 cord_individual_obj[indivial_i,:] = [ 2. 6. 48. 54.]
563 cord_individual_obj[indivial_i,:] = [ 3. 6. 20. 26.]
564 cord_individual_obj[indivial_i,:] = [ 4. 6. 75. 81.]
565 cord_individual_obj[indivial_i,:] = [ 5. 7. 74. 81.]
566 cord_individual_obj[indivial_i,:] = [ 6. 5. 85. 90.]
567 cord_individual_obj[indivial_i,:] = [ 7. 6. 103. 109.]
568 cord_individual_obj[indivial_i,:] = [ 8. 8. 35. 43.]
569 cord_individual_obj[indivial_i,:] = [ 9. 6. 46. 52.]
570 cord_individual_obj[indivial_i,:] = [10. 6. 105. 111.]
571 cord_individual_obj[indivial_i,:] = [11. 7. 34. 41.]
572 cord_individual_obj[indivial_i,:] = [12. 6. 37. 43.]
573 cord_individual_obj[indivial_i,:] = [13. 6. 73. 79.]
574 cord_individual_obj[indivial_i,:] = [14. 8. 46. 54.]
575 cord_individual_obj[indivial_i,:] = [15. 6. 30. 36.]
576 cord_individual_obj[indivial_i,:] = [16. 7. 82. 89.]
577 cord_individual_obj[indivial_i,:] = [17. 6. 87. 93.]
578 cord_individual_obj[indivial_i,:] = [18. 6. 101. 107.]
579 cord_individual_obj[indivial_i,:] = [19. 5. 85. 90.]
580 cord_individual_obj[indivial_i,:] = [20. 5. 64. 69.]
581 cord_individual_obj[indivial_i,:] = [21. 7. 85. 92.]
582 cord_individual_obj[indivial_i,:] = [22. 5. 81. 86.]
583 cord_individual_obj[indivial_i,:] = [23. 6. 47. 53.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 7. 40. 47.]  
585  
586     min(cord_individual_obj[:, 3]) = 26.0  
587     historl_G_best_iter[iter, 3] = 26.0  
588 Begin iteration:  
589  
590 iter = 18  
591     cord_individual_obj[indivial_i, :] = [ 0. 9. 59. 68.]  
592     cord_individual_obj[indivial_i, :] = [ 1. 7. 57. 64.]  
593     cord_individual_obj[indivial_i, :] = [ 2. 6. 78. 84.]  
594     cord_individual_obj[indivial_i, :] = [ 3. 6. 55. 61.]  
595     cord_individual_obj[indivial_i, :] = [ 4. 6. 86. 92.]  
596     cord_individual_obj[indivial_i, :] = [ 5. 7. 54. 61.]  
597     cord_individual_obj[indivial_i, :] = [ 6. 5. 62. 67.]  
598     cord_individual_obj[indivial_i, :] = [ 7. 6. 58. 64.]  
599     cord_individual_obj[indivial_i, :] = [ 8. 7. 44. 51.]  
600     cord_individual_obj[indivial_i, :] = [ 9. 5. 93. 98.]  
601     cord_individual_obj[indivial_i, :] = [10. 6. 20. 26.]  
602     cord_individual_obj[indivial_i, :] = [11. 7. 43. 50.]  
603     cord_individual_obj[indivial_i, :] = [12. 6. 50. 56.]  
604     cord_individual_obj[indivial_i, :] = [13. 6. 74. 80.]  
605     cord_individual_obj[indivial_i, :] = [14. 7. 44. 51.]  
606     cord_individual_obj[indivial_i, :] = [15. 7. 39. 46.]  
607     cord_individual_obj[indivial_i, :] = [16. 5. 75. 80.]  
608     cord_individual_obj[indivial_i, :] = [17. 5. 93. 98.]  
609     cord_individual_obj[indivial_i, :] = [18. 8. 101. 109.]  
610     cord_individual_obj[indivial_i, :] = [19. 5. 34. 39.]  
611     cord_individual_obj[indivial_i, :] = [20. 5. 66. 71.]  
612     cord_individual_obj[indivial_i, :] = [21. 7. 85. 92.]  
613     cord_individual_obj[indivial_i, :] = [22. 6. 41. 47.]  
614     cord_individual_obj[indivial_i, :] = [23. 6. 51. 57.]  
615     cord_individual_obj[indivial_i, :] = [24. 8. 58. 66.]  
616  
617 min(cord_individual_obj[:, 3]) = 26.0  
618 historl_G_best_iter[iter, 3] = 26.0  
619 Begin iteration:  
620  
621 iter = 19  
622     cord_individual_obj[indivial_i, :] = [ 0. 9. 63. 72.]  
623     cord_individual_obj[indivial_i, :] = [ 1. 6. 82. 88.]  
624     cord_individual_obj[indivial_i, :] = [ 2. 5. 42. 47.]  
625     cord_individual_obj[indivial_i, :] = [ 3. 6. 55. 61.]  
626     cord_individual_obj[indivial_i, :] = [ 4. 6. 75. 81.]  
627     cord_individual_obj[indivial_i, :] = [ 5. 7. 73. 80.]  
628     cord_individual_obj[indivial_i, :] = [ 6. 6. 78. 84.]  
629     cord_individual_obj[indivial_i, :] = [ 7. 7. 53. 60.]  
630     cord_individual_obj[indivial_i, :] = [ 8. 8. 35. 43.]  
631     cord_individual_obj[indivial_i, :] = [ 9. 6. 52. 58.]  
632     cord_individual_obj[indivial_i, :] = [10. 6. 79. 85.]  
633     cord_individual_obj[indivial_i, :] = [11. 7. 34. 41.]  
634     cord_individual_obj[indivial_i, :] = [12. 6. 37. 43.]  
635     cord_individual_obj[indivial_i, :] = [13. 6. 45. 51.]  
636     cord_individual_obj[indivial_i, :] = [14. 7. 45. 52.]  
637     cord_individual_obj[indivial_i, :] = [15. 7. 34. 41.]  
638     cord_individual_obj[indivial_i, :] = [16. 5. 85. 90.]  
639     cord_individual_obj[indivial_i, :] = [17. 6. 84. 90.]  
640     cord_individual_obj[indivial_i, :] = [18. 6. 20. 26.]  
641     cord_individual_obj[indivial_i, :] = [19. 7. 93. 100.]  
642     cord_individual_obj[indivial_i, :] = [20. 6. 34. 40.]  
643     cord_individual_obj[indivial_i, :] = [21. 7. 85. 92.]  
644     cord_individual_obj[indivial_i, :] = [22. 6. 54. 60.]  
645     cord_individual_obj[indivial_i, :] = [23. 6. 29. 35.]  
646     cord_individual_obj[indivial_i, :] = [24. 8. 58. 66.]  
647  
648 min(cord_individual_obj[:, 3]) = 26.0  
649 historl_G_best_iter[iter, 3] = 26.0  
650 Begin iteration:  
651  
652 iter = 20  
653     cord_individual_obj[indivial_i, :] = [ 0. 7. 62. 69.]  
654     cord_individual_obj[indivial_i, :] = [ 1. 7. 84. 91.]  
655     cord_individual_obj[indivial_i, :] = [ 2. 7. 87. 94.]  
656     cord_individual_obj[indivial_i, :] = [ 3. 9. 105. 114.]  
657     cord_individual_obj[indivial_i, :] = [ 4. 7. 46. 53.]  
658     cord_individual_obj[indivial_i, :] = [ 5. 7. 42. 49.]  
659     cord_individual_obj[indivial_i, :] = [ 6. 5. 74. 79.]  
660     cord_individual_obj[indivial_i, :] = [ 7. 5. 119. 124.]  
661     cord_individual_obj[indivial_i, :] = [ 8. 7. 72. 79.]  
662     cord_individual_obj[indivial_i, :] = [ 9. 6. 84. 90.]  
663     cord_individual_obj[indivial_i, :] = [10. 6. 86. 92.]  
664     cord_individual_obj[indivial_i, :] = [11. 9. 86. 95.]  
665     cord_individual_obj[indivial_i, :] = [12. 7. 69. 76.]  
666     cord_individual_obj[indivial_i, :] = [13. 7. 96. 103.]  
667     cord_individual_obj[indivial_i, :] = [14. 7. 54. 61.]
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668 cord_individual_obj[indivial_i,:] = [15. 6. 52. 58.]
669 cord_individual_obj[indivial_i,:] = [16. 6. 25. 31.]
670 cord_individual_obj[indivial_i,:] = [17. 7. 28. 35.]
671 cord_individual_obj[indivial_i,:] = [18. 8. 101. 109.]
672 cord_individual_obj[indivial_i,:] = [19. 6. 20. 26.]
673 cord_individual_obj[indivial_i,:] = [20. 6. 45. 51.]
674 cord_individual_obj[indivial_i,:] = [21. 7. 35. 42.]
675 cord_individual_obj[indivial_i,:] = [22. 7. 51. 58.]
676 cord_individual_obj[indivial_i,:] = [23. 7. 47. 54.]
677 cord_individual_obj[indivial_i,:] = [24. 8. 86. 94.]
678
679 min(cord_individual_obj[:, 3]) = 26.0
680 historl_G_best_iter[iter, 3] = 26.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 168.0
689 Proportion_of_area = 0.15555555555555556
690 BEST_CHROM =
691 berth: [11.5 20.5 2.5 11. 22. 16. 6.5 4. 19.5 4. 11.5]
692 time: [2. 0. 0. 0. 1. 0. 0. 2. 3. 4. 4.]
693 num_QC: [2. 4. 4. 4. 3. 3. 2. 3. 2. 3.]
694 Objective function values and some other indicators:
695 Obj0 = 6.00          Obj1 = 20.00          Obj0 + Obj1 = 26.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 16.00
698 Total index of q during berthing: 530.00
699 Specific arrangement for each vessel:
700 V_id: 0           li: 7.0           xi: 11.5           bow of i: 8.0           tail of i: 15.0           gama_i0: 2.0           gama_i1: 3
701 .0           gama_i1 + 1: 4.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work
702 load_i: 80.0           work load gap_i: 0
703 V_id: 1           li: 5.0           xi: 20.5           bow of i: 18.0           tail of i: 23.0           gama_i0: 0.0           gama_i1: 0
704 .0           gama_i1 + 1: 1.0           gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 60.0           work
705 load_i: 60.0           work load gap_i: 0
706 V_id: 2           li: 5.0           xi: 2.5           bow of i: 0.0           tail of i: 5.0           gama_i0: 0.0           gama_i1: 1.0
707 .0           gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0           work load_i:
708 160.0           work load gap_i: 0
709 V_id: 3           li: 6.0           xi: 11.0           bow of i: 8.0           tail of i: 14.0           gama_i0: 0.0           gama_i1: 1
710 .0           gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 100.0           work
711 load_i: 100.0           work load gap_i: 0
712 V_id: 4           li: 8.0           xi: 22.0           bow of i: 18.0           tail of i: 26.0           gama_i0: 1.0           gama_i1: 2
713 .0           gama_i1 + 1: 3.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work
714 load_i: 80.0           work load gap_i: 0
715 V_id: 5           li: 4.0           xi: 16.0           bow of i: 14.0           tail of i: 18.0           gama_i0: 0.0           gama_i1: 1
716 .0           gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 120.0           work
717 load_i: 120.0           work load gap_i: 0
718 V_id: 6           li: 3.0           xi: 6.5           bow of i: 5.0           tail of i: 8.0           gama_i0: 0.0           gama_i1: 1.0
719 .0           gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 60.0           work load_i:
720 60.0           work load gap_i: 0
721 V_id: 7           li: 8.0           xi: 4.0           bow of i: 0.0           tail of i: 8.0           gama_i0: 2.0           gama_i1: 3.0
722 .0           gama_i1 + 1: 4.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work load_i:
723 80.0           work load gap_i: 0
724 V_id: 8           li: 9.0           xi: 19.5           bow of i: 15.0           tail of i: 24.0           gama_i0: 3.0           gama_i1: 6
725 .0           gama_i1 + 1: 7.0           gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 160.0           work
726 load_i: 160.0           work load gap_i: 0
727 V_id: 9           li: 8.0           xi: 4.0           bow of i: 0.0           tail of i: 8.0           gama_i0: 4.0           gama_i1: 6.0
728 .0           gama_i1 + 1: 7.0           gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 100.0           work load_i:
729 100.0           work load gap_i: 0
730 V_id: 10          li: 7.0           xi: 11.5           bow of i: 8.0           tail of i: 15.0           gama_i0: 4.0           gama_i1: 4
731 : 6.0           gama_i1 + 1: 7.0           gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 160.0           work
732 load_i: 160.0           work load gap_i: 0
733
734 Algorithm finished and the total CPU time: 278 s
735 End
736

```