

unknown

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80 cord_individual_obj[indivial_i,:] = [16. 8. 58. 66.]
81 cord_individual_obj[indivial_i,:] = [17. 7. 74. 81.]
82 cord_individual_obj[indivial_i,:] = [18. 8. 73. 81.]
83 cord_individual_obj[indivial_i,:] = [19. 8. 74. 82.]
84 cord_individual_obj[indivial_i,:] = [20. 7. 103. 110.]
85 cord_individual_obj[indivial_i,:] = [21. 8. 79. 87.]
86 cord_individual_obj[indivial_i,:] = [22. 11. 140. 151.]
87 cord_individual_obj[indivial_i,:] = [23. 7. 75. 82.]
88 cord_individual_obj[indivial_i,:] = [24. 8. 27. 35.]
89
90 min(cord_individual_obj[:,3]) = 35.0
91 historl_G_best_iter[iter,3] = 35.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 8. 115. 123.]
96 cord_individual_obj[indivial_i,:] = [ 1. 5. 117. 122.]
97 cord_individual_obj[indivial_i,:] = [ 2. 8. 134. 142.]
98 cord_individual_obj[indivial_i,:] = [ 3. 7. 64. 71.]
99 cord_individual_obj[indivial_i,:] = [ 4. 6. 77. 83.]
100 cord_individual_obj[indivial_i,:] = [ 5. 7. 29. 36.]
101 cord_individual_obj[indivial_i,:] = [ 6. 7. 114. 121.]
102 cord_individual_obj[indivial_i,:] = [ 7. 8. 55. 63.]
103 cord_individual_obj[indivial_i,:] = [ 8. 8. 73. 81.]
104 cord_individual_obj[indivial_i,:] = [ 9. 7. 48. 55.]
105 cord_individual_obj[indivial_i,:] = [10. 7. 97. 104.]
106 cord_individual_obj[indivial_i,:] = [11. 9. 89. 98.]
107 cord_individual_obj[indivial_i,:] = [12. 8. 101. 109.]
108 cord_individual_obj[indivial_i,:] = [13. 8. 94. 102.]
109 cord_individual_obj[indivial_i,:] = [14. 8. 93. 101.]
110 cord_individual_obj[indivial_i,:] = [15. 8. 89. 97.]
111 cord_individual_obj[indivial_i,:] = [16. 8. 48. 56.]
112 cord_individual_obj[indivial_i,:] = [17. 6. 91. 97.]
113 cord_individual_obj[indivial_i,:] = [18. 7. 71. 78.]
114 cord_individual_obj[indivial_i,:] = [19. 8. 67. 75.]
115 cord_individual_obj[indivial_i,:] = [20. 8. 96. 104.]
116 cord_individual_obj[indivial_i,:] = [21. 7. 133. 140.]
117 cord_individual_obj[indivial_i,:] = [22. 8. 27. 35.]
118 cord_individual_obj[indivial_i,:] = [23. 9. 61. 70.]
119 cord_individual_obj[indivial_i,:] = [24. 9. 126. 135.]
120
121 min(cord_individual_obj[:,3]) = 35.0
122 historl_G_best_iter[iter,3] = 35.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 8. 73. 81.]
127 cord_individual_obj[indivial_i,:] = [ 1. 7. 77. 84.]
128 cord_individual_obj[indivial_i,:] = [ 2. 8. 27. 35.]
129 cord_individual_obj[indivial_i,:] = [ 3. 8. 114. 122.]
130 cord_individual_obj[indivial_i,:] = [ 4. 7. 66. 73.]
131 cord_individual_obj[indivial_i,:] = [ 5. 8. 102. 110.]
132 cord_individual_obj[indivial_i,:] = [ 6. 8. 41. 49.]
133 cord_individual_obj[indivial_i,:] = [ 7. 8. 41. 49.]
134 cord_individual_obj[indivial_i,:] = [ 8. 7. 59. 66.]
135 cord_individual_obj[indivial_i,:] = [ 9. 8. 160. 168.]
136 cord_individual_obj[indivial_i,:] = [10. 7. 39. 46.]
137 cord_individual_obj[indivial_i,:] = [11. 8. 46. 54.]
138 cord_individual_obj[indivial_i,:] = [12. 7. 47. 54.]
139 cord_individual_obj[indivial_i,:] = [13. 9. 51. 60.]
140 cord_individual_obj[indivial_i,:] = [14. 9. 57. 66.]
141 cord_individual_obj[indivial_i,:] = [15. 7. 53. 60.]
142 cord_individual_obj[indivial_i,:] = [16. 7. 46. 53.]
143 cord_individual_obj[indivial_i,:] = [17. 8. 87. 95.]
144 cord_individual_obj[indivial_i,:] = [18. 10. 59. 69.]
145 cord_individual_obj[indivial_i,:] = [19. 8. 64. 72.]
146 cord_individual_obj[indivial_i,:] = [20. 7. 40. 47.]
147 cord_individual_obj[indivial_i,:] = [21. 7. 38. 45.]
148 cord_individual_obj[indivial_i,:] = [22. 9. 128. 137.]
149 cord_individual_obj[indivial_i,:] = [23. 8. 69. 77.]
150 cord_individual_obj[indivial_i,:] = [24. 8. 48. 56.]
151
152 min(cord_individual_obj[:,3]) = 35.0
153 historl_G_best_iter[iter,3] = 35.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 8. 75. 83.]
158 cord_individual_obj[indivial_i,:] = [ 1. 9. 46. 55.]
159 cord_individual_obj[indivial_i,:] = [ 2. 8. 66. 74.]
160 cord_individual_obj[indivial_i,:] = [ 3. 9. 72. 81.]
161 cord_individual_obj[indivial_i,:] = [ 4. 9. 80. 89.]
162 cord_individual_obj[indivial_i,:] = [ 5. 8. 41. 49.]
163 cord_individual_obj[indivial_i,:] = [ 6. 7. 111. 118.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 11. 67. 78.]
165 cord_individual_obj[indivial_i,:] = [ 8. 9. 75. 84.]
166 cord_individual_obj[indivial_i,:] = [ 9. 8. 27. 35.]
167 cord_individual_obj[indivial_i,:] = [10. 9. 105. 114.]
168 cord_individual_obj[indivial_i,:] = [11. 8. 55. 63.]
169 cord_individual_obj[indivial_i,:] = [12. 8. 72. 80.]
170 cord_individual_obj[indivial_i,:] = [13. 8. 41. 49.]
171 cord_individual_obj[indivial_i,:] = [14. 8. 57. 65.]
172 cord_individual_obj[indivial_i,:] = [15. 9. 61. 70.]
173 cord_individual_obj[indivial_i,:] = [16. 7. 58. 65.]
174 cord_individual_obj[indivial_i,:] = [17. 7. 69. 76.]
175 cord_individual_obj[indivial_i,:] = [18. 11. 63. 74.]
176 cord_individual_obj[indivial_i,:] = [19. 8. 38. 46.]
177 cord_individual_obj[indivial_i,:] = [20. 7. 51. 58.]
178 cord_individual_obj[indivial_i,:] = [21. 8. 61. 69.]
179 cord_individual_obj[indivial_i,:] = [22. 9. 78. 87.]
180 cord_individual_obj[indivial_i,:] = [23. 8. 80. 88.]
181 cord_individual_obj[indivial_i,:] = [24. 10. 59. 69.]
182
183 min(cord_individual_obj[:,3]) = 35.0
184 historl_G_best_iter[iter,3] = 35.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 8. 63. 71.]
189 cord_individual_obj[indivial_i,:] = [ 1. 12. 95. 107.]
190 cord_individual_obj[indivial_i,:] = [ 2. 9. 82. 91.]
191 cord_individual_obj[indivial_i,:] = [ 3. 10. 151. 161.]
192 cord_individual_obj[indivial_i,:] = [ 4. 5. 75. 80.]
193 cord_individual_obj[indivial_i,:] = [ 5. 8. 88. 96.]
194 cord_individual_obj[indivial_i,:] = [ 6. 8. 27. 35.]
195 cord_individual_obj[indivial_i,:] = [ 7. 7. 81. 88.]
196 cord_individual_obj[indivial_i,:] = [ 8. 7. 75. 82.]
197 cord_individual_obj[indivial_i,:] = [ 9. 7. 79. 86.]
198 cord_individual_obj[indivial_i,:] = [10. 7. 96. 103.]
199 cord_individual_obj[indivial_i,:] = [11. 11. 55. 66.]
200 cord_individual_obj[indivial_i,:] = [12. 7. 95. 102.]
201 cord_individual_obj[indivial_i,:] = [13. 10. 107. 117.]
202 cord_individual_obj[indivial_i,:] = [14. 8. 172. 180.]
203 cord_individual_obj[indivial_i,:] = [15. 10. 73. 83.]
204 cord_individual_obj[indivial_i,:] = [16. 7. 48. 55.]
205 cord_individual_obj[indivial_i,:] = [17. 7. 107. 114.]
206 cord_individual_obj[indivial_i,:] = [18. 9. 84. 93.]
207 cord_individual_obj[indivial_i,:] = [19. 7. 140. 147.]
208 cord_individual_obj[indivial_i,:] = [20. 7. 61. 68.]
209 cord_individual_obj[indivial_i,:] = [21. 9. 79. 88.]
210 cord_individual_obj[indivial_i,:] = [22. 9. 83. 92.]
211 cord_individual_obj[indivial_i,:] = [23. 8. 90. 98.]
212 cord_individual_obj[indivial_i,:] = [24. 8. 60. 68.]
213
214 min(cord_individual_obj[:,3]) = 35.0
215 historl_G_best_iter[iter,3] = 35.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 8. 73. 81.]
220 cord_individual_obj[indivial_i,:] = [ 1. 10. 112. 122.]
221 cord_individual_obj[indivial_i,:] = [ 2. 7. 134. 141.]
222 cord_individual_obj[indivial_i,:] = [ 3. 9. 108. 117.]
223 cord_individual_obj[indivial_i,:] = [ 4. 7. 43. 50.]
224 cord_individual_obj[indivial_i,:] = [ 5. 6. 39. 45.]
225 cord_individual_obj[indivial_i,:] = [ 6. 7. 60. 67.]
226 cord_individual_obj[indivial_i,:] = [ 7. 7. 73. 80.]
227 cord_individual_obj[indivial_i,:] = [ 8. 8. 45. 53.]
228 cord_individual_obj[indivial_i,:] = [ 9. 8. 50. 58.]
229 cord_individual_obj[indivial_i,:] = [10. 7. 110. 117.]
230 cord_individual_obj[indivial_i,:] = [11. 8. 32. 40.]
231 cord_individual_obj[indivial_i,:] = [12. 6. 138. 144.]
232 cord_individual_obj[indivial_i,:] = [13. 10. 73. 83.]
233 cord_individual_obj[indivial_i,:] = [14. 8. 27. 35.]
234 cord_individual_obj[indivial_i,:] = [15. 7. 89. 96.]
235 cord_individual_obj[indivial_i,:] = [16. 8. 108. 116.]
236 cord_individual_obj[indivial_i,:] = [17. 8. 52. 60.]
237 cord_individual_obj[indivial_i,:] = [18. 9. 76. 85.]
238 cord_individual_obj[indivial_i,:] = [19. 8. 58. 66.]
239 cord_individual_obj[indivial_i,:] = [20. 8. 98. 106.]
240 cord_individual_obj[indivial_i,:] = [21. 8. 34. 42.]
241 cord_individual_obj[indivial_i,:] = [22. 7. 83. 90.]
242 cord_individual_obj[indivial_i,:] = [23. 8. 76. 84.]
243 cord_individual_obj[indivial_i,:] = [24. 7. 83. 90.]
244
245 min(cord_individual_obj[:,3]) = 35.0
246 historl_G_best_iter[iter,3] = 35.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0.  8. 74. 82.]
251 cord_individual_obj[indivial_i, :] = [ 1. 10. 59. 69.]
252 cord_individual_obj[indivial_i, :] = [ 2.  6. 114. 120.]
253 cord_individual_obj[indivial_i, :] = [ 3.  7. 92. 99.]
254 cord_individual_obj[indivial_i, :] = [ 4.  7. 97. 104.]
255 cord_individual_obj[indivial_i, :] = [ 5.  8. 110. 118.]
256 cord_individual_obj[indivial_i, :] = [ 6.  8. 59. 67.]
257 cord_individual_obj[indivial_i, :] = [ 7.  9. 59. 68.]
258 cord_individual_obj[indivial_i, :] = [ 8.  8. 55. 63.]
259 cord_individual_obj[indivial_i, :] = [ 9.  8. 93. 101.]
260 cord_individual_obj[indivial_i, :] = [10. 10. 153. 163.]
261 cord_individual_obj[indivial_i, :] = [11.  8. 95. 103.]
262 cord_individual_obj[indivial_i, :] = [12. 8. 27. 35.]
263 cord_individual_obj[indivial_i, :] = [13. 11. 95. 106.]
264 cord_individual_obj[indivial_i, :] = [14. 8. 77. 85.]
265 cord_individual_obj[indivial_i, :] = [15. 7. 80. 87.]
266 cord_individual_obj[indivial_i, :] = [16. 7. 69. 76.]
267 cord_individual_obj[indivial_i, :] = [17. 7. 72. 79.]
268 cord_individual_obj[indivial_i, :] = [18. 7. 50. 57.]
269 cord_individual_obj[indivial_i, :] = [19. 9. 65. 74.]
270 cord_individual_obj[indivial_i, :] = [20. 8. 42. 50.]
271 cord_individual_obj[indivial_i, :] = [21. 6. 62. 68.]
272 cord_individual_obj[indivial_i, :] = [22. 7. 53. 60.]
273 cord_individual_obj[indivial_i, :] = [23. 8. 85. 93.]
274 cord_individual_obj[indivial_i, :] = [24. 8. 52. 60.]
275

276 min(cord_individual_obj[:, 3]) = 35.0
277 historl_G_best_iter[iter, 3] = 35.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0.  9. 80. 89.]
282 cord_individual_obj[indivial_i, :] = [ 1. 9. 68. 77.]
283 cord_individual_obj[indivial_i, :] = [ 2. 8. 49. 57.]
284 cord_individual_obj[indivial_i, :] = [ 3. 8. 122. 130.]
285 cord_individual_obj[indivial_i, :] = [ 4. 7. 98. 105.]
286 cord_individual_obj[indivial_i, :] = [ 5. 8. 175. 183.]
287 cord_individual_obj[indivial_i, :] = [ 6. 8. 66. 74.]
288 cord_individual_obj[indivial_i, :] = [ 7. 9. 45. 54.]
289 cord_individual_obj[indivial_i, :] = [ 8. 8. 52. 60.]
290 cord_individual_obj[indivial_i, :] = [ 9. 9. 130. 139.]
291 cord_individual_obj[indivial_i, :] = [10. 8. 27. 35.]
292 cord_individual_obj[indivial_i, :] = [11. 8. 47. 55.]
293 cord_individual_obj[indivial_i, :] = [12. 6. 70. 76.]
294 cord_individual_obj[indivial_i, :] = [13. 10. 44. 54.]
295 cord_individual_obj[indivial_i, :] = [14. 10. 101. 111.]
296 cord_individual_obj[indivial_i, :] = [15. 8. 51. 59.]
297 cord_individual_obj[indivial_i, :] = [16. 7. 87. 94.]
298 cord_individual_obj[indivial_i, :] = [17. 7. 74. 81.]
299 cord_individual_obj[indivial_i, :] = [18. 8. 66. 74.]
300 cord_individual_obj[indivial_i, :] = [19. 8. 100. 108.]
301 cord_individual_obj[indivial_i, :] = [20. 10. 52. 62.]
302 cord_individual_obj[indivial_i, :] = [21. 8. 98. 106.]
303 cord_individual_obj[indivial_i, :] = [22. 6. 151. 157.]
304 cord_individual_obj[indivial_i, :] = [23. 9. 77. 86.]
305 cord_individual_obj[indivial_i, :] = [24. 8. 53. 61.]
306

307 min(cord_individual_obj[:, 3]) = 35.0
308 historl_G_best_iter[iter, 3] = 35.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0.  7. 49. 56.]
313 cord_individual_obj[indivial_i, :] = [ 1. 8. 89. 97.]
314 cord_individual_obj[indivial_i, :] = [ 2. 9. 86. 95.]
315 cord_individual_obj[indivial_i, :] = [ 3. 9. 81. 90.]
316 cord_individual_obj[indivial_i, :] = [ 4. 7. 61. 68.]
317 cord_individual_obj[indivial_i, :] = [ 5. 8. 27. 35.]
318 cord_individual_obj[indivial_i, :] = [ 6. 6. 85. 91.]
319 cord_individual_obj[indivial_i, :] = [ 7. 8. 54. 62.]
320 cord_individual_obj[indivial_i, :] = [ 8. 7. 55. 62.]
321 cord_individual_obj[indivial_i, :] = [ 9. 8. 100. 108.]
322 cord_individual_obj[indivial_i, :] = [10. 7. 36. 43.]
323 cord_individual_obj[indivial_i, :] = [11. 7. 40. 47.]
324 cord_individual_obj[indivial_i, :] = [12. 8. 31. 39.]
325 cord_individual_obj[indivial_i, :] = [13. 7. 56. 63.]
326 cord_individual_obj[indivial_i, :] = [14. 9. 94. 103.]
327 cord_individual_obj[indivial_i, :] = [15. 7. 49. 56.]
328 cord_individual_obj[indivial_i, :] = [16. 7. 61. 68.]
329 cord_individual_obj[indivial_i, :] = [17. 7. 135. 142.]
330 cord_individual_obj[indivial_i, :] = [18. 8. 57. 65.]
331 cord_individual_obj[indivial_i, :] = [19. 7. 65. 72.]

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332 cord_individual_obj[indivial_i,:] = [20. 6. 87. 93.]
333 cord_individual_obj[indivial_i,:] = [21. 9. 71. 80.]
334 cord_individual_obj[indivial_i,:] = [22. 7. 78. 85.]
335 cord_individual_obj[indivial_i,:] = [23. 6. 93. 99.]
336 cord_individual_obj[indivial_i,:] = [24. 8. 64. 72.]
337
338 min(cord_individual_obj[:,3]) = 35.0
339 histol_G_best_iter[iter,3] = 35.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i,:] = [ 0. 7. 76. 83.]
344 cord_individual_obj[indivial_i,:] = [ 1. 10. 116. 126.]
345 cord_individual_obj[indivial_i,:] = [ 2. 9. 109. 118.]
346 cord_individual_obj[indivial_i,:] = [ 3. 8. 102. 110.]
347 cord_individual_obj[indivial_i,:] = [ 4. 7. 96. 103.]
348 cord_individual_obj[indivial_i,:] = [ 5. 8. 90. 98.]
349 cord_individual_obj[indivial_i,:] = [ 6. 9. 117. 126.]
350 cord_individual_obj[indivial_i,:] = [ 7. 8. 94. 102.]
351 cord_individual_obj[indivial_i,:] = [ 8. 7. 66. 73.]
352 cord_individual_obj[indivial_i,:] = [ 9. 7. 61. 68.]
353 cord_individual_obj[indivial_i,:] = [10. 9. 95. 104.]
354 cord_individual_obj[indivial_i,:] = [11. 7. 108. 115.]
355 cord_individual_obj[indivial_i,:] = [12. 8. 132. 140.]
356 cord_individual_obj[indivial_i,:] = [13. 9. 81. 90.]
357 cord_individual_obj[indivial_i,:] = [14. 7. 79. 86.]
358 cord_individual_obj[indivial_i,:] = [15. 9. 111. 120.]
359 cord_individual_obj[indivial_i,:] = [16. 9. 90. 99.]
360 cord_individual_obj[indivial_i,:] = [17. 8. 27. 35.]
361 cord_individual_obj[indivial_i,:] = [18. 9. 64. 73.]
362 cord_individual_obj[indivial_i,:] = [19. 7. 50. 57.]
363 cord_individual_obj[indivial_i,:] = [20. 8. 61. 69.]
364 cord_individual_obj[indivial_i,:] = [21. 7. 101. 108.]
365 cord_individual_obj[indivial_i,:] = [22. 7. 136. 143.]
366 cord_individual_obj[indivial_i,:] = [23. 8. 105. 113.]
367 cord_individual_obj[indivial_i,:] = [24. 9. 100. 109.]
368
369 min(cord_individual_obj[:,3]) = 35.0
370 histol_G_best_iter[iter,3] = 35.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i,:] = [ 0. 8. 74. 82.]
375 cord_individual_obj[indivial_i,:] = [ 1. 9. 51. 60.]
376 cord_individual_obj[indivial_i,:] = [ 2. 9. 63. 72.]
377 cord_individual_obj[indivial_i,:] = [ 3. 9. 56. 65.]
378 cord_individual_obj[indivial_i,:] = [ 4. 7. 84. 91.]
379 cord_individual_obj[indivial_i,:] = [ 5. 9. 68. 77.]
380 cord_individual_obj[indivial_i,:] = [ 6. 8. 78. 86.]
381 cord_individual_obj[indivial_i,:] = [ 7. 7. 75. 82.]
382 cord_individual_obj[indivial_i,:] = [ 8. 10. 62. 72.]
383 cord_individual_obj[indivial_i,:] = [ 9. 9. 104. 113.]
384 cord_individual_obj[indivial_i,:] = [10. 7. 39. 46.]
385 cord_individual_obj[indivial_i,:] = [11. 8. 43. 51.]
386 cord_individual_obj[indivial_i,:] = [12. 7. 57. 64.]
387 cord_individual_obj[indivial_i,:] = [13. 9. 49. 58.]
388 cord_individual_obj[indivial_i,:] = [14. 7. 73. 80.]
389 cord_individual_obj[indivial_i,:] = [15. 8. 48. 56.]
390 cord_individual_obj[indivial_i,:] = [16. 7. 63. 70.]
391 cord_individual_obj[indivial_i,:] = [17. 8. 67. 75.]
392 cord_individual_obj[indivial_i,:] = [18. 7. 101. 108.]
393 cord_individual_obj[indivial_i,:] = [19. 10. 66. 76.]
394 cord_individual_obj[indivial_i,:] = [20. 8. 86. 94.]
395 cord_individual_obj[indivial_i,:] = [21. 9. 84. 93.]
396 cord_individual_obj[indivial_i,:] = [22. 8. 27. 35.]
397 cord_individual_obj[indivial_i,:] = [23. 8. 80. 88.]
398 cord_individual_obj[indivial_i,:] = [24. 9. 87. 96.]
399
400 min(cord_individual_obj[:,3]) = 35.0
401 histol_G_best_iter[iter,3] = 35.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i,:] = [ 0. 7. 129. 136.]
406 cord_individual_obj[indivial_i,:] = [ 1. 10. 85. 95.]
407 cord_individual_obj[indivial_i,:] = [ 2. 7. 107. 114.]
408 cord_individual_obj[indivial_i,:] = [ 3. 7. 52. 59.]
409 cord_individual_obj[indivial_i,:] = [ 4. 7. 71. 78.]
410 cord_individual_obj[indivial_i,:] = [ 5. 6. 103. 109.]
411 cord_individual_obj[indivial_i,:] = [ 6. 9. 63. 72.]
412 cord_individual_obj[indivial_i,:] = [ 7. 10. 48. 58.]
413 cord_individual_obj[indivial_i,:] = [ 8. 7. 99. 106.]
414 cord_individual_obj[indivial_i,:] = [ 9. 8. 27. 35.]
415 cord_individual_obj[indivial_i,:] = [10. 7. 60. 67.]

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416 cord_individual_obj[indivial_i,:] = [ 11. 9. 125. 134.]
417 cord_individual_obj[indivial_i,:] = [12. 7. 51. 58.]
418 cord_individual_obj[indivial_i,:] = [13. 10. 58. 68.]
419 cord_individual_obj[indivial_i,:] = [14. 10. 72. 82.]
420 cord_individual_obj[indivial_i,:] = [15. 8. 62. 70.]
421 cord_individual_obj[indivial_i,:] = [ 16. 6. 107. 113.]
422 cord_individual_obj[indivial_i,:] = [17. 6. 178. 184.]
423 cord_individual_obj[indivial_i,:] = [18. 8. 42. 50.]
424 cord_individual_obj[indivial_i,:] = [19. 8. 68. 76.]
425 cord_individual_obj[indivial_i,:] = [20. 9. 39. 48.]
426 cord_individual_obj[indivial_i,:] = [21. 6. 62. 68.]
427 cord_individual_obj[indivial_i,:] = [22. 9. 83. 92.]
428 cord_individual_obj[indivial_i,:] = [23. 6. 173. 179.]
429 cord_individual_obj[indivial_i,:] = [24. 8. 67. 75.]
430
431 min(cord_individual_obj[:,3]) = 35.0
432 histol_G_best_iter[iter,3] = 35.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 8. 56. 64.]
437 cord_individual_obj[indivial_i,:] = [ 1. 10. 53. 63.]
438 cord_individual_obj[indivial_i,:] = [ 2. 9. 105. 114.]
439 cord_individual_obj[indivial_i,:] = [ 3. 11. 79. 90.]
440 cord_individual_obj[indivial_i,:] = [ 4. 8. 58. 66.]
441 cord_individual_obj[indivial_i,:] = [ 5. 7. 80. 87.]
442 cord_individual_obj[indivial_i,:] = [ 6. 7. 100. 107.]
443 cord_individual_obj[indivial_i,:] = [ 7. 8. 57. 65.]
444 cord_individual_obj[indivial_i,:] = [ 8. 9. 90. 99.]
445 cord_individual_obj[indivial_i,:] = [ 9. 7. 113. 120.]
446 cord_individual_obj[indivial_i,:] = [10. 8. 147. 155.]
447 cord_individual_obj[indivial_i,:] = [11. 9. 78. 87.]
448 cord_individual_obj[indivial_i,:] = [12. 6. 110. 116.]
449 cord_individual_obj[indivial_i,:] = [13. 10. 53. 63.]
450 cord_individual_obj[indivial_i,:] = [14. 9. 49. 58.]
451 cord_individual_obj[indivial_i,:] = [15. 7. 101. 108.]
452 cord_individual_obj[indivial_i,:] = [16. 7. 80. 87.]
453 cord_individual_obj[indivial_i,:] = [17. 8. 27. 35.]
454 cord_individual_obj[indivial_i,:] = [18. 8. 80. 88.]
455 cord_individual_obj[indivial_i,:] = [19. 7. 75. 82.]
456 cord_individual_obj[indivial_i,:] = [20. 7. 75. 82.]
457 cord_individual_obj[indivial_i,:] = [21. 7. 68. 75.]
458 cord_individual_obj[indivial_i,:] = [22. 9. 99. 108.]
459 cord_individual_obj[indivial_i,:] = [23. 7. 52. 59.]
460 cord_individual_obj[indivial_i,:] = [24. 8. 85. 93.]
461
462 min(cord_individual_obj[:,3]) = 35.0
463 histol_G_best_iter[iter,3] = 35.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 8. 73. 81.]
468 cord_individual_obj[indivial_i,:] = [ 1. 9. 47. 56.]
469 cord_individual_obj[indivial_i,:] = [ 2. 10. 81. 91.]
470 cord_individual_obj[indivial_i,:] = [ 3. 9. 56. 65.]
471 cord_individual_obj[indivial_i,:] = [ 4. 8. 60. 68.]
472 cord_individual_obj[indivial_i,:] = [ 5. 9. 70. 79.]
473 cord_individual_obj[indivial_i,:] = [ 6. 8. 78. 86.]
474 cord_individual_obj[indivial_i,:] = [ 7. 7. 67. 74.]
475 cord_individual_obj[indivial_i,:] = [ 8. 7. 85. 92.]
476 cord_individual_obj[indivial_i,:] = [ 9. 8. 117. 125.]
477 cord_individual_obj[indivial_i,:] = [10. 8. 27. 35.]
478 cord_individual_obj[indivial_i,:] = [11. 8. 55. 63.]
479 cord_individual_obj[indivial_i,:] = [12. 7. 47. 54.]
480 cord_individual_obj[indivial_i,:] = [13. 9. 61. 70.]
481 cord_individual_obj[indivial_i,:] = [14. 8. 61. 69.]
482 cord_individual_obj[indivial_i,:] = [15. 8. 36. 44.]
483 cord_individual_obj[indivial_i,:] = [16. 8. 118. 126.]
484 cord_individual_obj[indivial_i,:] = [17. 8. 67. 75.]
485 cord_individual_obj[indivial_i,:] = [18. 7. 74. 81.]
486 cord_individual_obj[indivial_i,:] = [19. 8. 46. 54.]
487 cord_individual_obj[indivial_i,:] = [20. 8. 47. 55.]
488 cord_individual_obj[indivial_i,:] = [21. 10. 88. 98.]
489 cord_individual_obj[indivial_i,:] = [22. 7. 123. 130.]
490 cord_individual_obj[indivial_i,:] = [23. 9. 94. 103.]
491 cord_individual_obj[indivial_i,:] = [24. 7. 37. 44.]
492
493 min(cord_individual_obj[:,3]) = 35.0
494 histol_G_best_iter[iter,3] = 35.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 7. 75. 82.]
499 cord_individual_obj[indivial_i,:] = [ 1. 8. 90. 98.]

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500 cord_individual_obj[indivial_i,:] = [ 2. 8. 62. 70.]
501 cord_individual_obj[indivial_i,:] = [ 3. 8. 51. 59.]
502 cord_individual_obj[indivial_i,:] = [ 4. 6. 140. 146.]
503 cord_individual_obj[indivial_i,:] = [ 5. 7. 99. 106.]
504 cord_individual_obj[indivial_i,:] = [ 6. 8. 68. 76.]
505 cord_individual_obj[indivial_i,:] = [ 7. 9. 94. 103.]
506 cord_individual_obj[indivial_i,:] = [ 8. 6. 106. 112.]
507 cord_individual_obj[indivial_i,:] = [ 9. 7. 83. 90.]
508 cord_individual_obj[indivial_i,:] = [10. 8. 47. 55.]
509 cord_individual_obj[indivial_i,:] = [11. 8. 93. 101.]
510 cord_individual_obj[indivial_i,:] = [12. 7. 132. 139.]
511 cord_individual_obj[indivial_i,:] = [13. 7. 90. 97.]
512 cord_individual_obj[indivial_i,:] = [14. 10. 100. 110.]
513 cord_individual_obj[indivial_i,:] = [15. 7. 53. 60.]
514 cord_individual_obj[indivial_i,:] = [16. 6. 97. 103.]
515 cord_individual_obj[indivial_i,:] = [17. 9. 78. 87.]
516 cord_individual_obj[indivial_i,:] = [18. 9. 47. 56.]
517 cord_individual_obj[indivial_i,:] = [19. 7. 60. 67.]
518 cord_individual_obj[indivial_i,:] = [20. 8. 39. 47.]
519 cord_individual_obj[indivial_i,:] = [21. 8. 54. 62.]
520 cord_individual_obj[indivial_i,:] = [22. 8. 27. 35.]
521 cord_individual_obj[indivial_i,:] = [23. 7. 123. 130.]
522 cord_individual_obj[indivial_i,:] = [24. 6. 53. 59.]
523
524 min(cord_individual_obj[:, 3]) = 35.0
525 histol_G_best_iter[iter, 3] = 35.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i,:] = [ 0. 8. 75. 83.]
530 cord_individual_obj[indivial_i,:] = [ 1. 8. 46. 54.]
531 cord_individual_obj[indivial_i,:] = [ 2. 10. 96. 106.]
532 cord_individual_obj[indivial_i,:] = [ 3. 8. 70. 78.]
533 cord_individual_obj[indivial_i,:] = [ 4. 8. 27. 35.]
534 cord_individual_obj[indivial_i,:] = [ 5. 8. 89. 97.]
535 cord_individual_obj[indivial_i,:] = [ 6. 10. 51. 61.]
536 cord_individual_obj[indivial_i,:] = [ 7. 7. 103. 110.]
537 cord_individual_obj[indivial_i,:] = [ 8. 7. 93. 100.]
538 cord_individual_obj[indivial_i,:] = [ 9. 8. 136. 144.]
539 cord_individual_obj[indivial_i,:] = [10. 8. 60. 68.]
540 cord_individual_obj[indivial_i,:] = [11. 8. 53. 61.]
541 cord_individual_obj[indivial_i,:] = [12. 8. 91. 99.]
542 cord_individual_obj[indivial_i,:] = [13. 9. 96. 105.]
543 cord_individual_obj[indivial_i,:] = [14. 7. 53. 60.]
544 cord_individual_obj[indivial_i,:] = [15. 10. 72. 82.]
545 cord_individual_obj[indivial_i,:] = [16. 7. 112. 119.]
546 cord_individual_obj[indivial_i,:] = [17. 7. 73. 80.]
547 cord_individual_obj[indivial_i,:] = [18. 8. 95. 103.]
548 cord_individual_obj[indivial_i,:] = [19. 7. 41. 48.]
549 cord_individual_obj[indivial_i,:] = [20. 8. 74. 82.]
550 cord_individual_obj[indivial_i,:] = [21. 9. 60. 69.]
551 cord_individual_obj[indivial_i,:] = [22. 7. 113. 120.]
552 cord_individual_obj[indivial_i,:] = [23. 7. 92. 99.]
553 cord_individual_obj[indivial_i,:] = [24. 10. 65. 75.]
554
555 min(cord_individual_obj[:, 3]) = 35.0
556 histol_G_best_iter[iter, 3] = 35.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i,:] = [ 0. 6. 109. 115.]
561 cord_individual_obj[indivial_i,:] = [ 1. 8. 193. 201.]
562 cord_individual_obj[indivial_i,:] = [ 2. 7. 48. 55.]
563 cord_individual_obj[indivial_i,:] = [ 3. 9. 70. 79.]
564 cord_individual_obj[indivial_i,:] = [ 4. 8. 60. 68.]
565 cord_individual_obj[indivial_i,:] = [ 5. 7. 109. 116.]
566 cord_individual_obj[indivial_i,:] = [ 6. 7. 160. 167.]
567 cord_individual_obj[indivial_i,:] = [ 7. 10. 117. 127.]
568 cord_individual_obj[indivial_i,:] = [ 8. 7. 114. 121.]
569 cord_individual_obj[indivial_i,:] = [ 9. 8. 27. 35.]
570 cord_individual_obj[indivial_i,:] = [10. 8. 75. 83.]
571 cord_individual_obj[indivial_i,:] = [11. 7. 58. 65.]
572 cord_individual_obj[indivial_i,:] = [12. 8. 70. 78.]
573 cord_individual_obj[indivial_i,:] = [13. 9. 59. 68.]
574 cord_individual_obj[indivial_i,:] = [14. 9. 67. 76.]
575 cord_individual_obj[indivial_i,:] = [15. 8. 69. 77.]
576 cord_individual_obj[indivial_i,:] = [16. 7. 63. 70.]
577 cord_individual_obj[indivial_i,:] = [17. 8. 92. 100.]
578 cord_individual_obj[indivial_i,:] = [18. 8. 61. 69.]
579 cord_individual_obj[indivial_i,:] = [19. 8. 63. 71.]
580 cord_individual_obj[indivial_i,:] = [20. 8. 75. 83.]
581 cord_individual_obj[indivial_i,:] = [21. 10. 43. 53.]
582 cord_individual_obj[indivial_i,:] = [22. 8. 121. 129.]
583 cord_individual_obj[indivial_i,:] = [23. 7. 117. 124.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 9. 47. 56.]  
585  
586     min(cord_individual_obj[:, 3]) = 35.0  
587     historl_G_best_iter[iter, 3] = 35.0  
588 Begin iteration:  
589  
590 iter = 18  
591     cord_individual_obj[indivial_i, :] = [ 0. 9. 74. 83.]  
592     cord_individual_obj[indivial_i, :] = [ 1. 8. 27. 35.]  
593     cord_individual_obj[indivial_i, :] = [ 2. 10. 68. 78.]  
594     cord_individual_obj[indivial_i, :] = [ 3. 8. 82. 90.]  
595     cord_individual_obj[indivial_i, :] = [ 4. 6. 158. 164.]  
596     cord_individual_obj[indivial_i, :] = [ 5. 6. 75. 81.]  
597     cord_individual_obj[indivial_i, :] = [ 6. 8. 78. 86.]  
598     cord_individual_obj[indivial_i, :] = [ 7. 8. 108. 116.]  
599     cord_individual_obj[indivial_i, :] = [ 8. 7. 200. 207.]  
600     cord_individual_obj[indivial_i, :] = [ 9. 7. 151. 158.]  
601     cord_individual_obj[indivial_i, :] = [10. 8. 69. 77.]  
602     cord_individual_obj[indivial_i, :] = [11. 7. 78. 85.]  
603     cord_individual_obj[indivial_i, :] = [12. 7. 75. 82.]  
604     cord_individual_obj[indivial_i, :] = [13. 9. 133. 142.]  
605     cord_individual_obj[indivial_i, :] = [14. 6. 117. 123.]  
606     cord_individual_obj[indivial_i, :] = [15. 8. 81. 89.]  
607     cord_individual_obj[indivial_i, :] = [16. 7. 64. 71.]  
608     cord_individual_obj[indivial_i, :] = [17. 8. 81. 89.]  
609     cord_individual_obj[indivial_i, :] = [18. 8. 57. 65.]  
610     cord_individual_obj[indivial_i, :] = [19. 7. 110. 117.]  
611     cord_individual_obj[indivial_i, :] = [20. 6. 79. 85.]  
612     cord_individual_obj[indivial_i, :] = [21. 6. 66. 72.]  
613     cord_individual_obj[indivial_i, :] = [22. 7. 72. 79.]  
614     cord_individual_obj[indivial_i, :] = [23. 8. 67. 75.]  
615     cord_individual_obj[indivial_i, :] = [24. 8. 84. 92.]  
616  
617 min(cord_individual_obj[:, 3]) = 35.0  
618 historl_G_best_iter[iter, 3] = 35.0  
619 Begin iteration:  
620  
621 iter = 19  
622     cord_individual_obj[indivial_i, :] = [ 0. 7. 49. 56.]  
623     cord_individual_obj[indivial_i, :] = [ 1. 9. 116. 125.]  
624     cord_individual_obj[indivial_i, :] = [ 2. 8. 115. 123.]  
625     cord_individual_obj[indivial_i, :] = [ 3. 7. 63. 70.]  
626     cord_individual_obj[indivial_i, :] = [ 4. 7. 67. 74.]  
627     cord_individual_obj[indivial_i, :] = [ 5. 7. 54. 61.]  
628     cord_individual_obj[indivial_i, :] = [ 6. 9. 63. 72.]  
629     cord_individual_obj[indivial_i, :] = [ 7. 8. 51. 59.]  
630     cord_individual_obj[indivial_i, :] = [ 8. 8. 27. 35.]  
631     cord_individual_obj[indivial_i, :] = [ 9. 7. 35. 42.]  
632     cord_individual_obj[indivial_i, :] = [10. 9. 103. 112.]  
633     cord_individual_obj[indivial_i, :] = [11. 8. 66. 74.]  
634     cord_individual_obj[indivial_i, :] = [12. 10. 129. 139.]  
635     cord_individual_obj[indivial_i, :] = [13. 8. 138. 146.]  
636     cord_individual_obj[indivial_i, :] = [14. 8. 80. 88.]  
637     cord_individual_obj[indivial_i, :] = [15. 8. 117. 125.]  
638     cord_individual_obj[indivial_i, :] = [16. 8. 139. 147.]  
639     cord_individual_obj[indivial_i, :] = [17. 6. 94. 100.]  
640     cord_individual_obj[indivial_i, :] = [18. 8. 92. 100.]  
641     cord_individual_obj[indivial_i, :] = [19. 7. 52. 59.]  
642     cord_individual_obj[indivial_i, :] = [20. 8. 71. 79.]  
643     cord_individual_obj[indivial_i, :] = [21. 8. 81. 89.]  
644     cord_individual_obj[indivial_i, :] = [22. 7. 113. 120.]  
645     cord_individual_obj[indivial_i, :] = [23. 6. 145. 151.]  
646     cord_individual_obj[indivial_i, :] = [24. 8. 133. 141.]  
647  
648 min(cord_individual_obj[:, 3]) = 35.0  
649 historl_G_best_iter[iter, 3] = 35.0  
650 Begin iteration:  
651  
652 iter = 20  
653     cord_individual_obj[indivial_i, :] = [ 0. 7. 77. 84.]  
654     cord_individual_obj[indivial_i, :] = [ 1. 8. 61. 69.]  
655     cord_individual_obj[indivial_i, :] = [ 2. 6. 125. 131.]  
656     cord_individual_obj[indivial_i, :] = [ 3. 9. 106. 115.]  
657     cord_individual_obj[indivial_i, :] = [ 4. 7. 91. 98.]  
658     cord_individual_obj[indivial_i, :] = [ 5. 7. 81. 88.]  
659     cord_individual_obj[indivial_i, :] = [ 6. 8. 145. 153.]  
660     cord_individual_obj[indivial_i, :] = [ 7. 8. 95. 103.]  
661     cord_individual_obj[indivial_i, :] = [ 8. 10. 54. 64.]  
662     cord_individual_obj[indivial_i, :] = [ 9. 9. 50. 59.]  
663     cord_individual_obj[indivial_i, :] = [10. 8. 64. 72.]  
664     cord_individual_obj[indivial_i, :] = [11. 12. 91. 103.]  
665     cord_individual_obj[indivial_i, :] = [12. 8. 74. 82.]  
666     cord_individual_obj[indivial_i, :] = [13. 7. 100. 107.]  
667     cord_individual_obj[indivial_i, :] = [14. 8. 95. 103.]
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668 cord_individual_obj[indivial_i,:] = [ 15. 8. 137. 145.]
669 cord_individual_obj[indivial_i,:] = [16. 7. 73. 80.]
670 cord_individual_obj[indivial_i,:] = [17. 8. 85. 93.]
671 cord_individual_obj[indivial_i,:] = [18. 6. 86. 92.]
672 cord_individual_obj[indivial_i,:] = [19. 8. 68. 76.]
673 cord_individual_obj[indivial_i,:] = [20. 7. 38. 45.]
674 cord_individual_obj[indivial_i,:] = [21. 7. 83. 90.]
675 cord_individual_obj[indivial_i,:] = [22. 7. 66. 73.]
676 cord_individual_obj[indivial_i,:] = [23. 8. 27. 35.]
677 cord_individual_obj[indivial_i,:] = [ 24. 9. 97. 106.]
678
679 min(cord_individual_obj[:, 3]) = 35.0
680 historl_G_best_iter[iter, 3] = 35.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 188.0
689 Proportion_of_area = 0.17407407407407408
690 BEST_CHROM =
691 berth: [15. 23. 4. 2. 16. 23.5 10.5 8.5 11.5 17. 23.5 6.5]
692 time: [5. 2. 0. 2. 0. 3. 0. 4. 2. 3. 0. 2.]
693 num_QC: [2. 3. 2. 2. 4. 3. 3. 4. 4. 4. 3. 5.]
694 Objective function values and some other indicators:
695 Obj0 = 8.00          Obj1 = 27.00          Obj0 + Obj1 = 35.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 23.00
698 Total index of q during berthing: 904.00
699 Specific arrangement for each vessel:
700 V_id: 0           li: 4.0           xi: 15.0           bow of i: 13.0           tail of i: 17.0           gama_i0: 5.0           gama_i1: 8
701 .0             gama_i1 + 1: 9.0       gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 160.0           work
702 load_i: 160.0   work load gap_i: 0
703 V_id: 1           li: 8.0           xi: 23.0           bow of i: 19.0           tail of i: 27.0           gama_i0: 2.0           gama_i1: 2
704 .0             gama_i1 + 1: 3.0       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: 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             gama_i1 + 1: 2.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work load_i:
708 80.0           work load gap_i: 0
709 V_id: 3           li: 4.0           xi: 2.0           bow of i: 0.0           tail of i: 4.0           gama_i0: 2.0           gama_i1: 5.0
710 .0             gama_i1 + 1: 6.0       gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 160.0           work load_i:
711 160.0           work load gap_i: 0
712 V_id: 4           li: 6.0           xi: 16.0           bow of i: 13.0           tail of i: 19.0           gama_i0: 0.0           gama_i1: 1
713 .0             gama_i1 + 1: 2.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0           work
714 load_i: 160.0   work load gap_i: 0
715 V_id: 5           li: 7.0           xi: 23.5           bow of i: 20.0           tail of i: 27.0           gama_i0: 3.0           gama_i1: 5
716 .0             gama_i1 + 1: 6.0       gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 160.0           work
717 load_i: 160.0   work load gap_i: 0
718 V_id: 6           li: 5.0           xi: 10.5           bow of i: 8.0           tail of i: 13.0           gama_i0: 0.0           gama_i1: 1
719 .0             gama_i1 + 1: 2.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 120.0           work
720 load_i: 120.0   work load gap_i: 0
721 V_id: 7           li: 9.0           xi: 8.5           bow of i: 4.0           tail of i: 13.0           gama_i0: 4.0           gama_i1: 5
722 .0             gama_i1 + 1: 6.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 140.0           work load_i:
723 140.0           work load gap_i: 0
724 V_id: 8           li: 5.0           xi: 11.5           bow of i: 9.0           tail of i: 14.0           gama_i0: 2.0           gama_i1: 3
725 .0             gama_i1 + 1: 4.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0           work
726 load_i: 160.0   work load gap_i: 0
727 V_id: 9           li: 6.0           xi: 17.0           bow of i: 14.0           tail of i: 20.0           gama_i0: 3.0           gama_i1: 4
728 .0             gama_i1 + 1: 5.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 140.0           work
729 load_i: 140.0   work load gap_i: 0
730 V_id: 10          li: 9.0           xi: 23.5           bow of i: 19.0           tail of i: 28.0           gama_i0: 0.0           gama_i1: 1
731 : 1.0            gama_i1 + 1: 2.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 120.0           work
732 load_i: 120.0   work load gap_i: 0
733 V_id: 11          li: 5.0           xi: 6.5           bow of i: 4.0           tail of i: 9.0           gama_i0: 2.0           gama_i1: 3
734 .0             gama_i1 + 1: 4.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0           work load_i:
735 160.0           work load gap_i: 0
736
737 Algorithm finished and the total CPU time: 323 s
738 End
739

```