

unknown

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80 cord_individual_obj[indivial_i,:] = [ 16.  6. 150. 156.]
81 cord_individual_obj[indivial_i,:] = [ 17.  6. 111. 117.]
82 cord_individual_obj[indivial_i,:] = [18.  8. 65. 73.]
83 cord_individual_obj[indivial_i,:] = [19.  6. 66. 72.]
84 cord_individual_obj[indivial_i,:] = [20.  8. 29. 37.]
85 cord_individual_obj[indivial_i,:] = [21.  5. 150. 155.]
86 cord_individual_obj[indivial_i,:] = [22.  8. 110. 118.]
87 cord_individual_obj[indivial_i,:] = [23.  7. 11. 18.]
88 cord_individual_obj[indivial_i,:] = [24.  6. 59. 65.]
89
90 min(cord_individual_obj[:,3]) = 18.0
91 historl_G_best_iter[iter, 3] = 18.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0.  5. 98. 103.]
96 cord_individual_obj[indivial_i,:] = [ 1.  6. 28. 34.]
97 cord_individual_obj[indivial_i,:] = [ 2.  4. 73. 77.]
98 cord_individual_obj[indivial_i,:] = [ 3.  7. 72. 79.]
99 cord_individual_obj[indivial_i,:] = [ 4.  8. 63. 71.]
100 cord_individual_obj[indivial_i,:] = [ 5.  7. 86. 93.]
101 cord_individual_obj[indivial_i,:] = [ 6.  6. 48. 54.]
102 cord_individual_obj[indivial_i,:] = [ 7.  5. 18. 23.]
103 cord_individual_obj[indivial_i,:] = [ 8.  5. 37. 42.]
104 cord_individual_obj[indivial_i,:] = [ 9.  7. 11. 18.]
105 cord_individual_obj[indivial_i,:] = [10.  7. 20. 27.]
106 cord_individual_obj[indivial_i,:] = [11.  9. 41. 50.]
107 cord_individual_obj[indivial_i,:] = [12. 11. 68. 79.]
108 cord_individual_obj[indivial_i,:] = [13.  8. 79. 87.]
109 cord_individual_obj[indivial_i,:] = [14.  7. 65. 72.]
110 cord_individual_obj[indivial_i,:] = [15.  7. 45. 52.]
111 cord_individual_obj[indivial_i,:] = [16.  5. 60. 65.]
112 cord_individual_obj[indivial_i,:] = [17.  7. 55. 62.]
113 cord_individual_obj[indivial_i,:] = [18.  6. 46. 52.]
114 cord_individual_obj[indivial_i,:] = [19.  7. 92. 99.]
115 cord_individual_obj[indivial_i,:] = [20.  9. 58. 67.]
116 cord_individual_obj[indivial_i,:] = [21.  8. 77. 85.]
117 cord_individual_obj[indivial_i,:] = [22.  7. 15. 22.]
118 cord_individual_obj[indivial_i,:] = [23.  6. 66. 72.]
119 cord_individual_obj[indivial_i,:] = [24.  6. 41. 47.]
120
121 min(cord_individual_obj[:,3]) = 18.0
122 historl_G_best_iter[iter, 3] = 18.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0.  7. 11. 18.]
127 cord_individual_obj[indivial_i,:] = [ 1.  5. 126. 131.]
128 cord_individual_obj[indivial_i,:] = [ 2.  6. 70. 76.]
129 cord_individual_obj[indivial_i,:] = [ 3.  5. 77. 82.]
130 cord_individual_obj[indivial_i,:] = [ 4.  6. 56. 62.]
131 cord_individual_obj[indivial_i,:] = [ 5.  5. 167. 172.]
132 cord_individual_obj[indivial_i,:] = [ 6.  6. 80. 86.]
133 cord_individual_obj[indivial_i,:] = [ 7.  5. 61. 66.]
134 cord_individual_obj[indivial_i,:] = [ 8.  7. 61. 68.]
135 cord_individual_obj[indivial_i,:] = [ 9.  9. 83. 92.]
136 cord_individual_obj[indivial_i,:] = [10.  5. 59. 64.]
137 cord_individual_obj[indivial_i,:] = [11.  6. 32. 38.]
138 cord_individual_obj[indivial_i,:] = [12.  5. 146. 151.]
139 cord_individual_obj[indivial_i,:] = [13.  7. 80. 87.]
140 cord_individual_obj[indivial_i,:] = [14.  7. 58. 65.]
141 cord_individual_obj[indivial_i,:] = [15.  8. 82. 90.]
142 cord_individual_obj[indivial_i,:] = [16.  6. 42. 48.]
143 cord_individual_obj[indivial_i,:] = [17.  6. 54. 60.]
144 cord_individual_obj[indivial_i,:] = [18.  6. 49. 55.]
145 cord_individual_obj[indivial_i,:] = [19.  7. 103. 110.]
146 cord_individual_obj[indivial_i,:] = [20.  6. 115. 121.]
147 cord_individual_obj[indivial_i,:] = [21.  6. 14. 20.]
148 cord_individual_obj[indivial_i,:] = [22.  6. 72. 78.]
149 cord_individual_obj[indivial_i,:] = [23.  7. 53. 60.]
150 cord_individual_obj[indivial_i,:] = [24.  6. 88. 94.]
151
152 min(cord_individual_obj[:,3]) = 18.0
153 historl_G_best_iter[iter, 3] = 18.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0.  5. 101. 106.]
158 cord_individual_obj[indivial_i,:] = [ 1.  8. 32. 40.]
159 cord_individual_obj[indivial_i,:] = [ 2.  5. 39. 44.]
160 cord_individual_obj[indivial_i,:] = [ 3.  7. 85. 92.]
161 cord_individual_obj[indivial_i,:] = [ 4.  7. 125. 132.]
162 cord_individual_obj[indivial_i,:] = [ 5.  7. 11. 18.]
163 cord_individual_obj[indivial_i,:] = [ 6.  7. 74. 81.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 5. 106. 111.]
165 cord_individual_obj[indivial_i,:] = [ 8. 6. 47. 53.]
166 cord_individual_obj[indivial_i,:] = [ 9. 6. 158. 164.]
167 cord_individual_obj[indivial_i,:] = [10. 7. 28. 35.]
168 cord_individual_obj[indivial_i,:] = [11. 7. 67. 74.]
169 cord_individual_obj[indivial_i,:] = [12. 9. 93. 102.]
170 cord_individual_obj[indivial_i,:] = [13. 6. 59. 65.]
171 cord_individual_obj[indivial_i,:] = [14. 5. 20. 25.]
172 cord_individual_obj[indivial_i,:] = [15. 7. 62. 69.]
173 cord_individual_obj[indivial_i,:] = [16. 6. 61. 67.]
174 cord_individual_obj[indivial_i,:] = [17. 7. 55. 62.]
175 cord_individual_obj[indivial_i,:] = [18. 5. 65. 70.]
176 cord_individual_obj[indivial_i,:] = [19. 9. 70. 79.]
177 cord_individual_obj[indivial_i,:] = [20. 7. 71. 78.]
178 cord_individual_obj[indivial_i,:] = [21. 5. 148. 153.]
179 cord_individual_obj[indivial_i,:] = [22. 7. 63. 70.]
180 cord_individual_obj[indivial_i,:] = [23. 6. 55. 61.]
181 cord_individual_obj[indivial_i,:] = [24. 6. 67. 73.]
182
183 min(cord_individual_obj[:,3]) = 18.0
184 historl_G_best_iter[iter,3] = 18.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 4. 31. 35.]
189 cord_individual_obj[indivial_i,:] = [ 1. 5. 36. 41.]
190 cord_individual_obj[indivial_i,:] = [ 2. 6. 85. 91.]
191 cord_individual_obj[indivial_i,:] = [ 3. 5. 110. 115.]
192 cord_individual_obj[indivial_i,:] = [ 4. 6. 75. 81.]
193 cord_individual_obj[indivial_i,:] = [ 5. 6. 96. 102.]
194 cord_individual_obj[indivial_i,:] = [ 6. 6. 65. 71.]
195 cord_individual_obj[indivial_i,:] = [ 7. 8. 48. 56.]
196 cord_individual_obj[indivial_i,:] = [ 8. 4. 156. 160.]
197 cord_individual_obj[indivial_i,:] = [ 9. 7. 11. 18.]
198 cord_individual_obj[indivial_i,:] = [10. 5. 101. 106.]
199 cord_individual_obj[indivial_i,:] = [11. 7. 49. 56.]
200 cord_individual_obj[indivial_i,:] = [12. 6. 16. 22.]
201 cord_individual_obj[indivial_i,:] = [13. 6. 29. 35.]
202 cord_individual_obj[indivial_i,:] = [14. 7. 87. 94.]
203 cord_individual_obj[indivial_i,:] = [15. 7. 32. 39.]
204 cord_individual_obj[indivial_i,:] = [16. 5. 31. 36.]
205 cord_individual_obj[indivial_i,:] = [17. 5. 31. 36.]
206 cord_individual_obj[indivial_i,:] = [18. 7. 33. 40.]
207 cord_individual_obj[indivial_i,:] = [19. 6. 51. 57.]
208 cord_individual_obj[indivial_i,:] = [20. 6. 93. 99.]
209 cord_individual_obj[indivial_i,:] = [21. 6. 29. 35.]
210 cord_individual_obj[indivial_i,:] = [22. 8. 22. 30.]
211 cord_individual_obj[indivial_i,:] = [23. 7. 110. 117.]
212 cord_individual_obj[indivial_i,:] = [24. 7. 25. 32.]
213
214 min(cord_individual_obj[:,3]) = 18.0
215 historl_G_best_iter[iter,3] = 18.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 5. 57. 62.]
220 cord_individual_obj[indivial_i,:] = [ 1. 8. 73. 81.]
221 cord_individual_obj[indivial_i,:] = [ 2. 6. 81. 87.]
222 cord_individual_obj[indivial_i,:] = [ 3. 6. 80. 86.]
223 cord_individual_obj[indivial_i,:] = [ 4. 6. 49. 55.]
224 cord_individual_obj[indivial_i,:] = [ 5. 7. 114. 121.]
225 cord_individual_obj[indivial_i,:] = [ 6. 8. 60. 68.]
226 cord_individual_obj[indivial_i,:] = [ 7. 6. 17. 23.]
227 cord_individual_obj[indivial_i,:] = [ 8. 7. 11. 18.]
228 cord_individual_obj[indivial_i,:] = [ 9. 7. 85. 92.]
229 cord_individual_obj[indivial_i,:] = [10. 7. 36. 43.]
230 cord_individual_obj[indivial_i,:] = [11. 7. 60. 67.]
231 cord_individual_obj[indivial_i,:] = [12. 6. 78. 84.]
232 cord_individual_obj[indivial_i,:] = [13. 5. 61. 66.]
233 cord_individual_obj[indivial_i,:] = [14. 5. 54. 59.]
234 cord_individual_obj[indivial_i,:] = [15. 10. 77. 87.]
235 cord_individual_obj[indivial_i,:] = [16. 8. 94. 102.]
236 cord_individual_obj[indivial_i,:] = [17. 6. 20. 26.]
237 cord_individual_obj[indivial_i,:] = [18. 7. 112. 119.]
238 cord_individual_obj[indivial_i,:] = [19. 6. 82. 88.]
239 cord_individual_obj[indivial_i,:] = [20. 8. 80. 88.]
240 cord_individual_obj[indivial_i,:] = [21. 5. 195. 200.]
241 cord_individual_obj[indivial_i,:] = [22. 7. 84. 91.]
242 cord_individual_obj[indivial_i,:] = [23. 8. 68. 76.]
243 cord_individual_obj[indivial_i,:] = [24. 8. 57. 65.]
244
245 min(cord_individual_obj[:,3]) = 18.0
246 historl_G_best_iter[iter,3] = 18.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0.  5. 87. 92.]
251 cord_individual_obj[indivial_i, :] = [ 1.  4. 69. 73.]
252 cord_individual_obj[indivial_i, :] = [ 2.  7. 122. 129.]
253 cord_individual_obj[indivial_i, :] = [ 3.  8. 118. 126.]
254 cord_individual_obj[indivial_i, :] = [ 4.  7. 67. 74.]
255 cord_individual_obj[indivial_i, :] = [ 5.  7. 98. 105.]
256 cord_individual_obj[indivial_i, :] = [ 6.  6. 51. 57.]
257 cord_individual_obj[indivial_i, :] = [ 7.  6. 53. 59.]
258 cord_individual_obj[indivial_i, :] = [ 8.  7. 36. 43.]
259 cord_individual_obj[indivial_i, :] = [ 9.  6. 41. 47.]
260 cord_individual_obj[indivial_i, :] = [10.  6. 102. 108.]
261 cord_individual_obj[indivial_i, :] = [11.  7. 33. 40.]
262 cord_individual_obj[indivial_i, :] = [12.  6. 64. 70.]
263 cord_individual_obj[indivial_i, :] = [13.  6. 32. 38.]
264 cord_individual_obj[indivial_i, :] = [14.  7. 131. 138.]
265 cord_individual_obj[indivial_i, :] = [15.  6. 50. 56.]
266 cord_individual_obj[indivial_i, :] = [16.  6. 67. 73.]
267 cord_individual_obj[indivial_i, :] = [17.  5. 46. 51.]
268 cord_individual_obj[indivial_i, :] = [18.  6. 67. 73.]
269 cord_individual_obj[indivial_i, :] = [19.  5. 39. 44.]
270 cord_individual_obj[indivial_i, :] = [20.  6. 54. 60.]
271 cord_individual_obj[indivial_i, :] = [21.  7. 11. 18.]
272 cord_individual_obj[indivial_i, :] = [22.  6. 23. 29.]
273 cord_individual_obj[indivial_i, :] = [23.  5. 54. 59.]
274 cord_individual_obj[indivial_i, :] = [24.  8. 24. 32.]
275

276 min(cord_individual_obj[:, 3]) = 18.0
277 historl_G_best_iter[iter, 3] = 18.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0.  4. 84. 88.]
282 cord_individual_obj[indivial_i, :] = [ 1.  7. 94. 101.]
283 cord_individual_obj[indivial_i, :] = [ 2.  6. 73. 79.]
284 cord_individual_obj[indivial_i, :] = [ 3.  7. 40. 47.]
285 cord_individual_obj[indivial_i, :] = [ 4.  6. 92. 98.]
286 cord_individual_obj[indivial_i, :] = [ 5.  7. 71. 78.]
287 cord_individual_obj[indivial_i, :] = [ 6.  6. 48. 54.]
288 cord_individual_obj[indivial_i, :] = [ 7.  7. 32. 39.]
289 cord_individual_obj[indivial_i, :] = [ 8.  7. 104. 111.]
290 cord_individual_obj[indivial_i, :] = [ 9.  5. 105. 110.]
291 cord_individual_obj[indivial_i, :] = [10.  5. 68. 73.]
292 cord_individual_obj[indivial_i, :] = [11.  7. 64. 71.]
293 cord_individual_obj[indivial_i, :] = [12.  7. 65. 72.]
294 cord_individual_obj[indivial_i, :] = [13.  7. 66. 73.]
295 cord_individual_obj[indivial_i, :] = [14.  7. 11. 18.]
296 cord_individual_obj[indivial_i, :] = [15.  8. 85. 93.]
297 cord_individual_obj[indivial_i, :] = [16.  6. 84. 90.]
298 cord_individual_obj[indivial_i, :] = [17.  7. 71. 78.]
299 cord_individual_obj[indivial_i, :] = [18.  10. 97. 107.]
300 cord_individual_obj[indivial_i, :] = [19.  8. 90. 98.]
301 cord_individual_obj[indivial_i, :] = [20.  8. 67. 75.]
302 cord_individual_obj[indivial_i, :] = [21.  6. 49. 55.]
303 cord_individual_obj[indivial_i, :] = [22.  8. 134. 142.]
304 cord_individual_obj[indivial_i, :] = [23.  8. 69. 77.]
305 cord_individual_obj[indivial_i, :] = [24.  5. 33. 38.]
306

307 min(cord_individual_obj[:, 3]) = 18.0
308 historl_G_best_iter[iter, 3] = 18.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0.  6. 108. 114.]
313 cord_individual_obj[indivial_i, :] = [ 1.  7. 26. 33.]
314 cord_individual_obj[indivial_i, :] = [ 2.  5. 31. 36.]
315 cord_individual_obj[indivial_i, :] = [ 3.  5. 94. 99.]
316 cord_individual_obj[indivial_i, :] = [ 4.  6. 55. 61.]
317 cord_individual_obj[indivial_i, :] = [ 5.  6. 150. 156.]
318 cord_individual_obj[indivial_i, :] = [ 6.  7. 95. 102.]
319 cord_individual_obj[indivial_i, :] = [ 7.  8. 54. 62.]
320 cord_individual_obj[indivial_i, :] = [ 8.  8. 57. 65.]
321 cord_individual_obj[indivial_i, :] = [ 9.  7. 49. 56.]
322 cord_individual_obj[indivial_i, :] = [10.  8. 47. 55.]
323 cord_individual_obj[indivial_i, :] = [11. 10. 43. 53.]
324 cord_individual_obj[indivial_i, :] = [12.  7. 65. 72.]
325 cord_individual_obj[indivial_i, :] = [13.  7. 64. 71.]
326 cord_individual_obj[indivial_i, :] = [14.  7. 85. 92.]
327 cord_individual_obj[indivial_i, :] = [15.  5. 52. 57.]
328 cord_individual_obj[indivial_i, :] = [16.  7. 68. 75.]
329 cord_individual_obj[indivial_i, :] = [17.  7. 55. 62.]
330 cord_individual_obj[indivial_i, :] = [18.  7. 97. 104.]
331 cord_individual_obj[indivial_i, :] = [19.  8. 58. 66.]

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332 cord_individual_obj[indivial_i, :] = [ 20.  8. 100. 108.]
333 cord_individual_obj[indivial_i, :] = [21.  7. 54. 61.]
334 cord_individual_obj[indivial_i, :] = [22.  7. 11. 18.]
335 cord_individual_obj[indivial_i, :] = [23.  4. 64. 68.]
336 cord_individual_obj[indivial_i, :] = [24.  5. 70. 75.]
337
338 min(cord_individual_obj[:, 3]) = 18.0
339 histol_G_best_iter[iter, 3] = 18.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i, :] = [ 0.  4. 127. 131.]
344 cord_individual_obj[indivial_i, :] = [ 1.  7. 32. 39.]
345 cord_individual_obj[indivial_i, :] = [ 2.  4. 72. 76.]
346 cord_individual_obj[indivial_i, :] = [ 3.  7. 76. 83.]
347 cord_individual_obj[indivial_i, :] = [ 4.  6. 121. 127.]
348 cord_individual_obj[indivial_i, :] = [ 5.  7. 11. 18.]
349 cord_individual_obj[indivial_i, :] = [ 6.  9. 53. 62.]
350 cord_individual_obj[indivial_i, :] = [ 7.  8. 68. 76.]
351 cord_individual_obj[indivial_i, :] = [ 8.  8. 57. 65.]
352 cord_individual_obj[indivial_i, :] = [ 9.  7. 145. 152.]
353 cord_individual_obj[indivial_i, :] = [10.  6. 38. 44.]
354 cord_individual_obj[indivial_i, :] = [11.  6. 49. 55.]
355 cord_individual_obj[indivial_i, :] = [12.  7. 93. 100.]
356 cord_individual_obj[indivial_i, :] = [13.  5. 48. 53.]
357 cord_individual_obj[indivial_i, :] = [14.  5. 96. 101.]
358 cord_individual_obj[indivial_i, :] = [15.  6. 36. 42.]
359 cord_individual_obj[indivial_i, :] = [16.  7. 64. 71.]
360 cord_individual_obj[indivial_i, :] = [17.  8. 56. 64.]
361 cord_individual_obj[indivial_i, :] = [18.  4. 73. 77.]
362 cord_individual_obj[indivial_i, :] = [19.  5. 70. 75.]
363 cord_individual_obj[indivial_i, :] = [20.  6. 67. 73.]
364 cord_individual_obj[indivial_i, :] = [21.  7. 49. 56.]
365 cord_individual_obj[indivial_i, :] = [22.  5. 25. 30.]
366 cord_individual_obj[indivial_i, :] = [23.  7. 77. 84.]
367 cord_individual_obj[indivial_i, :] = [24.  6. 34. 40.]
368
369 min(cord_individual_obj[:, 3]) = 18.0
370 histol_G_best_iter[iter, 3] = 18.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i, :] = [ 0.  5. 101. 106.]
375 cord_individual_obj[indivial_i, :] = [ 1.  8. 32. 40.]
376 cord_individual_obj[indivial_i, :] = [ 2.  5. 72. 77.]
377 cord_individual_obj[indivial_i, :] = [ 3.  5. 63. 68.]
378 cord_individual_obj[indivial_i, :] = [ 4.  8. 80. 88.]
379 cord_individual_obj[indivial_i, :] = [ 5.  6. 23. 29.]
380 cord_individual_obj[indivial_i, :] = [ 6.  9. 43. 52.]
381 cord_individual_obj[indivial_i, :] = [ 7.  6. 68. 74.]
382 cord_individual_obj[indivial_i, :] = [ 8. 11. 50. 61.]
383 cord_individual_obj[indivial_i, :] = [ 9.  7. 11. 18.]
384 cord_individual_obj[indivial_i, :] = [10.  6. 45. 51.]
385 cord_individual_obj[indivial_i, :] = [11.  6. 69. 75.]
386 cord_individual_obj[indivial_i, :] = [12.  5. 20. 25.]
387 cord_individual_obj[indivial_i, :] = [13.  7. 43. 50.]
388 cord_individual_obj[indivial_i, :] = [14.  7. 85. 92.]
389 cord_individual_obj[indivial_i, :] = [15.  7. 58. 65.]
390 cord_individual_obj[indivial_i, :] = [16.  5. 59. 64.]
391 cord_individual_obj[indivial_i, :] = [17.  7. 58. 65.]
392 cord_individual_obj[indivial_i, :] = [18.  7. 38. 45.]
393 cord_individual_obj[indivial_i, :] = [19.  7. 74. 81.]
394 cord_individual_obj[indivial_i, :] = [20.  9. 58. 67.]
395 cord_individual_obj[indivial_i, :] = [21.  6. 53. 59.]
396 cord_individual_obj[indivial_i, :] = [22.  6. 55. 61.]
397 cord_individual_obj[indivial_i, :] = [23.  9. 18. 27.]
398 cord_individual_obj[indivial_i, :] = [24.  7. 109. 116.]
399
400 min(cord_individual_obj[:, 3]) = 18.0
401 histol_G_best_iter[iter, 3] = 18.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i, :] = [ 0.  5. 65. 70.]
406 cord_individual_obj[indivial_i, :] = [ 1.  5. 74. 79.]
407 cord_individual_obj[indivial_i, :] = [ 2.  8. 61. 69.]
408 cord_individual_obj[indivial_i, :] = [ 3.  6. 46. 52.]
409 cord_individual_obj[indivial_i, :] = [ 4.  6. 14. 20.]
410 cord_individual_obj[indivial_i, :] = [ 5.  8. 129. 137.]
411 cord_individual_obj[indivial_i, :] = [ 6.  5. 71. 76.]
412 cord_individual_obj[indivial_i, :] = [ 7.  7. 94. 101.]
413 cord_individual_obj[indivial_i, :] = [ 8.  7. 14. 21.]
414 cord_individual_obj[indivial_i, :] = [ 9.  7. 66. 73.]
415 cord_individual_obj[indivial_i, :] = [10.  5. 123. 128.]

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416 cord_individual_obj[indivial_i,:] = [11. 8. 72. 80.]
417 cord_individual_obj[indivial_i,:] = [12. 7. 17. 24.]
418 cord_individual_obj[indivial_i,:] = [13. 5. 58. 63.]
419 cord_individual_obj[indivial_i,:] = [14. 6. 94. 100.]
420 cord_individual_obj[indivial_i,:] = [15. 8. 62. 70.]
421 cord_individual_obj[indivial_i,:] = [16. 9. 53. 62.]
422 cord_individual_obj[indivial_i,:] = [17. 5. 96. 101.]
423 cord_individual_obj[indivial_i,:] = [18. 7. 29. 36.]
424 cord_individual_obj[indivial_i,:] = [19. 6. 92. 98.]
425 cord_individual_obj[indivial_i,:] = [20. 6. 131. 137.]
426 cord_individual_obj[indivial_i,:] = [21. 6. 36. 42.]
427 cord_individual_obj[indivial_i,:] = [22. 6. 57. 63.]
428 cord_individual_obj[indivial_i,:] = [23. 7. 42. 49.]
429 cord_individual_obj[indivial_i,:] = [24. 7. 11. 18.]
430
431 min(cord_individual_obj[:,3]) = 18.0
432 histol_G_best_iter[iter,3] = 18.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 5. 99. 104.]
437 cord_individual_obj[indivial_i,:] = [ 1. 5. 128. 133.]
438 cord_individual_obj[indivial_i,:] = [ 2. 6. 88. 94.]
439 cord_individual_obj[indivial_i,:] = [ 3. 8. 53. 61.]
440 cord_individual_obj[indivial_i,:] = [ 4. 7. 51. 58.]
441 cord_individual_obj[indivial_i,:] = [ 5. 7. 11. 18.]
442 cord_individual_obj[indivial_i,:] = [ 6. 6. 77. 83.]
443 cord_individual_obj[indivial_i,:] = [ 7. 6. 101. 107.]
444 cord_individual_obj[indivial_i,:] = [ 8. 5. 48. 53.]
445 cord_individual_obj[indivial_i,:] = [ 9. 4. 118. 122.]
446 cord_individual_obj[indivial_i,:] = [10. 5. 36. 41.]
447 cord_individual_obj[indivial_i,:] = [11. 6. 27. 33.]
448 cord_individual_obj[indivial_i,:] = [12. 7. 16. 23.]
449 cord_individual_obj[indivial_i,:] = [13. 8. 104. 112.]
450 cord_individual_obj[indivial_i,:] = [14. 8. 121. 129.]
451 cord_individual_obj[indivial_i,:] = [15. 6. 96. 102.]
452 cord_individual_obj[indivial_i,:] = [16. 7. 82. 89.]
453 cord_individual_obj[indivial_i,:] = [17. 5. 85. 90.]
454 cord_individual_obj[indivial_i,:] = [18. 5. 135. 140.]
455 cord_individual_obj[indivial_i,:] = [19. 7. 87. 94.]
456 cord_individual_obj[indivial_i,:] = [20. 5. 82. 87.]
457 cord_individual_obj[indivial_i,:] = [21. 6. 137. 143.]
458 cord_individual_obj[indivial_i,:] = [22. 6. 77. 83.]
459 cord_individual_obj[indivial_i,:] = [23. 8. 68. 76.]
460 cord_individual_obj[indivial_i,:] = [24. 5. 80. 85.]
461
462 min(cord_individual_obj[:,3]) = 18.0
463 histol_G_best_iter[iter,3] = 18.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 7. 46. 53.]
468 cord_individual_obj[indivial_i,:] = [ 1. 5. 66. 71.]
469 cord_individual_obj[indivial_i,:] = [ 2. 6. 34. 40.]
470 cord_individual_obj[indivial_i,:] = [ 3. 7. 52. 59.]
471 cord_individual_obj[indivial_i,:] = [ 4. 6. 105. 111.]
472 cord_individual_obj[indivial_i,:] = [ 5. 8. 19. 27.]
473 cord_individual_obj[indivial_i,:] = [ 6. 5. 67. 72.]
474 cord_individual_obj[indivial_i,:] = [ 7. 7. 59. 66.]
475 cord_individual_obj[indivial_i,:] = [ 8. 8. 49. 57.]
476 cord_individual_obj[indivial_i,:] = [ 9. 6. 26. 32.]
477 cord_individual_obj[indivial_i,:] = [10. 5. 99. 104.]
478 cord_individual_obj[indivial_i,:] = [11. 6. 67. 73.]
479 cord_individual_obj[indivial_i,:] = [12. 7. 17. 24.]
480 cord_individual_obj[indivial_i,:] = [13. 8. 80. 88.]
481 cord_individual_obj[indivial_i,:] = [14. 7. 111. 118.]
482 cord_individual_obj[indivial_i,:] = [15. 7. 110. 117.]
483 cord_individual_obj[indivial_i,:] = [16. 7. 73. 80.]
484 cord_individual_obj[indivial_i,:] = [17. 6. 115. 121.]
485 cord_individual_obj[indivial_i,:] = [18. 5. 23. 28.]
486 cord_individual_obj[indivial_i,:] = [19. 4. 112. 116.]
487 cord_individual_obj[indivial_i,:] = [20. 7. 66. 73.]
488 cord_individual_obj[indivial_i,:] = [21. 7. 11. 18.]
489 cord_individual_obj[indivial_i,:] = [22. 6. 68. 74.]
490 cord_individual_obj[indivial_i,:] = [23. 7. 67. 74.]
491 cord_individual_obj[indivial_i,:] = [24. 5. 104. 109.]
492
493 min(cord_individual_obj[:,3]) = 18.0
494 histol_G_best_iter[iter,3] = 18.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 6. 76. 82.]
499 cord_individual_obj[indivial_i,:] = [ 1. 5. 77. 82.]

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500 cord_individual_obj[indivial_i,:] = [ 2. 7. 50. 57.]
501 cord_individual_obj[indivial_i,:] = [ 3. 6. 49. 55.]
502 cord_individual_obj[indivial_i,:] = [ 4. 8. 70. 78.]
503 cord_individual_obj[indivial_i,:] = [ 5. 6. 109. 115.]
504 cord_individual_obj[indivial_i,:] = [ 6. 5. 78. 83.]
505 cord_individual_obj[indivial_i,:] = [ 7. 5. 42. 47.]
506 cord_individual_obj[indivial_i,:] = [ 8. 8. 67. 75.]
507 cord_individual_obj[indivial_i,:] = [ 9. 5. 23. 28.]
508 cord_individual_obj[indivial_i,:] = [ 10. 6. 126. 132.]
509 cord_individual_obj[indivial_i,:] = [ 11. 7. 28. 35.]
510 cord_individual_obj[indivial_i,:] = [ 12. 5. 135. 140.]
511 cord_individual_obj[indivial_i,:] = [ 13. 8. 59. 67.]
512 cord_individual_obj[indivial_i,:] = [ 14. 7. 119. 126.]
513 cord_individual_obj[indivial_i,:] = [ 15. 10. 53. 63.]
514 cord_individual_obj[indivial_i,:] = [ 16. 7. 91. 98.]
515 cord_individual_obj[indivial_i,:] = [ 17. 7. 11. 18.]
516 cord_individual_obj[indivial_i,:] = [ 18. 5. 76. 81.]
517 cord_individual_obj[indivial_i,:] = [ 19. 8. 59. 67.]
518 cord_individual_obj[indivial_i,:] = [ 20. 6. 67. 73.]
519 cord_individual_obj[indivial_i,:] = [ 21. 6. 49. 55.]
520 cord_individual_obj[indivial_i,:] = [ 22. 10. 68. 78.]
521 cord_individual_obj[indivial_i,:] = [ 23. 7. 64. 71.]
522 cord_individual_obj[indivial_i,:] = [ 24. 7. 84. 91.]
523
524 min(cord_individual_obj[:, 3]) = 18.0
525 histol_G_best_iter[iter, 3] = 18.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i,:] = [ 0. 8. 77. 85.]
530 cord_individual_obj[indivial_i,:] = [ 1. 7. 32. 39.]
531 cord_individual_obj[indivial_i,:] = [ 2. 5. 40. 45.]
532 cord_individual_obj[indivial_i,:] = [ 3. 6. 81. 87.]
533 cord_individual_obj[indivial_i,:] = [ 4. 8. 81. 89.]
534 cord_individual_obj[indivial_i,:] = [ 5. 9. 114. 123.]
535 cord_individual_obj[indivial_i,:] = [ 6. 7. 66. 73.]
536 cord_individual_obj[indivial_i,:] = [ 7. 5. 148. 153.]
537 cord_individual_obj[indivial_i,:] = [ 8. 11. 87. 98.]
538 cord_individual_obj[indivial_i,:] = [ 9. 7. 132. 139.]
539 cord_individual_obj[indivial_i,:] = [ 10. 7. 23. 30.]
540 cord_individual_obj[indivial_i,:] = [ 11. 6. 79. 85.]
541 cord_individual_obj[indivial_i,:] = [ 12. 7. 11. 18.]
542 cord_individual_obj[indivial_i,:] = [ 13. 10. 81. 91.]
543 cord_individual_obj[indivial_i,:] = [ 14. 5. 78. 83.]
544 cord_individual_obj[indivial_i,:] = [ 15. 7. 58. 65.]
545 cord_individual_obj[indivial_i,:] = [ 16. 7. 90. 97.]
546 cord_individual_obj[indivial_i,:] = [ 17. 6. 117. 123.]
547 cord_individual_obj[indivial_i,:] = [ 18. 7. 66. 73.]
548 cord_individual_obj[indivial_i,:] = [ 19. 5. 44. 49.]
549 cord_individual_obj[indivial_i,:] = [ 20. 7. 89. 96.]
550 cord_individual_obj[indivial_i,:] = [ 21. 7. 49. 56.]
551 cord_individual_obj[indivial_i,:] = [ 22. 6. 43. 49.]
552 cord_individual_obj[indivial_i,:] = [ 23. 7. 74. 81.]
553 cord_individual_obj[indivial_i,:] = [ 24. 6. 91. 97.]
554
555 min(cord_individual_obj[:, 3]) = 18.0
556 histol_G_best_iter[iter, 3] = 18.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i,:] = [ 0. 5. 176. 181.]
561 cord_individual_obj[indivial_i,:] = [ 1. 7. 32. 39.]
562 cord_individual_obj[indivial_i,:] = [ 2. 4. 82. 86.]
563 cord_individual_obj[indivial_i,:] = [ 3. 7. 72. 79.]
564 cord_individual_obj[indivial_i,:] = [ 4. 8. 81. 89.]
565 cord_individual_obj[indivial_i,:] = [ 5. 10. 95. 105.]
566 cord_individual_obj[indivial_i,:] = [ 6. 5. 113. 118.]
567 cord_individual_obj[indivial_i,:] = [ 7. 7. 11. 18.]
568 cord_individual_obj[indivial_i,:] = [ 8. 8. 59. 67.]
569 cord_individual_obj[indivial_i,:] = [ 9. 6. 145. 151.]
570 cord_individual_obj[indivial_i,:] = [ 10. 5. 60. 65.]
571 cord_individual_obj[indivial_i,:] = [ 11. 7. 47. 54.]
572 cord_individual_obj[indivial_i,:] = [ 12. 7. 24. 31.]
573 cord_individual_obj[indivial_i,:] = [ 13. 5. 33. 38.]
574 cord_individual_obj[indivial_i,:] = [ 14. 6. 78. 84.]
575 cord_individual_obj[indivial_i,:] = [ 15. 6. 52. 58.]
576 cord_individual_obj[indivial_i,:] = [ 16. 6. 106. 112.]
577 cord_individual_obj[indivial_i,:] = [ 17. 8. 56. 64.]
578 cord_individual_obj[indivial_i,:] = [ 18. 8. 36. 44.]
579 cord_individual_obj[indivial_i,:] = [ 19. 6. 46. 52.]
580 cord_individual_obj[indivial_i,:] = [ 20. 5. 65. 70.]
581 cord_individual_obj[indivial_i,:] = [ 21. 8. 54. 62.]
582 cord_individual_obj[indivial_i,:] = [ 22. 7. 83. 90.]
583 cord_individual_obj[indivial_i,:] = [ 23. 7. 82. 89.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [24. 5. 76. 81.]  
585  
586     min(cord_individual_obj[:, 3]) = 18.0  
587     historl_G_best_iter[iter, 3] = 18.0  
588 Begin iteration:  
589  
590 iter = 18  
591     cord_individual_obj[indivial_i, :] = [ 0. 7. 11. 18.]  
592     cord_individual_obj[indivial_i, :] = [ 1. 8. 26. 34.]  
593     cord_individual_obj[indivial_i, :] = [ 2. 4. 110. 114.]  
594     cord_individual_obj[indivial_i, :] = [ 3. 6. 75. 81.]  
595     cord_individual_obj[indivial_i, :] = [ 4. 6. 50. 56.]  
596     cord_individual_obj[indivial_i, :] = [ 5. 8. 77. 85.]  
597     cord_individual_obj[indivial_i, :] = [ 6. 5. 88. 93.]  
598     cord_individual_obj[indivial_i, :] = [ 7. 6. 53. 59.]  
599     cord_individual_obj[indivial_i, :] = [ 8. 5. 72. 77.]  
600     cord_individual_obj[indivial_i, :] = [ 9. 9. 68. 77.]  
601     cord_individual_obj[indivial_i, :] = [10. 6. 34. 40.]  
602     cord_individual_obj[indivial_i, :] = [11. 8. 82. 90.]  
603     cord_individual_obj[indivial_i, :] = [12. 8. 29. 37.]  
604     cord_individual_obj[indivial_i, :] = [13. 6. 74. 80.]  
605     cord_individual_obj[indivial_i, :] = [14. 5. 46. 51.]  
606     cord_individual_obj[indivial_i, :] = [15. 6. 47. 53.]  
607     cord_individual_obj[indivial_i, :] = [16. 6. 100. 106.]  
608     cord_individual_obj[indivial_i, :] = [17. 6. 131. 137.]  
609     cord_individual_obj[indivial_i, :] = [18. 8. 46. 54.]  
610     cord_individual_obj[indivial_i, :] = [19. 5. 65. 70.]  
611     cord_individual_obj[indivial_i, :] = [20. 6. 81. 87.]  
612     cord_individual_obj[indivial_i, :] = [21. 6. 81. 87.]  
613     cord_individual_obj[indivial_i, :] = [22. 6. 124. 130.]  
614     cord_individual_obj[indivial_i, :] = [23. 6. 77. 83.]  
615     cord_individual_obj[indivial_i, :] = [24. 5. 52. 57.]  
616  
617     min(cord_individual_obj[:, 3]) = 18.0  
618     historl_G_best_iter[iter, 3] = 18.0  
619 Begin iteration:  
620  
621 iter = 19  
622     cord_individual_obj[indivial_i, :] = [ 0. 5. 90. 95.]  
623     cord_individual_obj[indivial_i, :] = [ 1. 5. 147. 152.]  
624     cord_individual_obj[indivial_i, :] = [ 2. 6. 79. 85.]  
625     cord_individual_obj[indivial_i, :] = [ 3. 7. 72. 79.]  
626     cord_individual_obj[indivial_i, :] = [ 4. 6. 16. 22.]  
627     cord_individual_obj[indivial_i, :] = [ 5. 6. 144. 150.]  
628     cord_individual_obj[indivial_i, :] = [ 6. 7. 88. 95.]  
629     cord_individual_obj[indivial_i, :] = [ 7. 5. 17. 22.]  
630     cord_individual_obj[indivial_i, :] = [ 8. 10. 32. 42.]  
631     cord_individual_obj[indivial_i, :] = [ 9. 5. 99. 104.]  
632     cord_individual_obj[indivial_i, :] = [10. 5. 70. 75.]  
633     cord_individual_obj[indivial_i, :] = [11. 6. 53. 59.]  
634     cord_individual_obj[indivial_i, :] = [12. 6. 23. 29.]  
635     cord_individual_obj[indivial_i, :] = [13. 6. 45. 51.]  
636     cord_individual_obj[indivial_i, :] = [14. 5. 173. 178.]  
637     cord_individual_obj[indivial_i, :] = [15. 10. 28. 38.]  
638     cord_individual_obj[indivial_i, :] = [16. 6. 114. 120.]  
639     cord_individual_obj[indivial_i, :] = [17. 7. 11. 18.]  
640     cord_individual_obj[indivial_i, :] = [18. 6. 62. 68.]  
641     cord_individual_obj[indivial_i, :] = [19. 7. 100. 107.]  
642     cord_individual_obj[indivial_i, :] = [20. 6. 109. 115.]  
643     cord_individual_obj[indivial_i, :] = [21. 6. 68. 74.]  
644     cord_individual_obj[indivial_i, :] = [22. 6. 153. 159.]  
645     cord_individual_obj[indivial_i, :] = [23. 7. 33. 40.]  
646     cord_individual_obj[indivial_i, :] = [24. 7. 59. 66.]  
647  
648     min(cord_individual_obj[:, 3]) = 18.0  
649     historl_G_best_iter[iter, 3] = 18.0  
650 Begin iteration:  
651  
652 iter = 20  
653     cord_individual_obj[indivial_i, :] = [ 0. 6. 171. 177.]  
654     cord_individual_obj[indivial_i, :] = [ 1. 7. 46. 53.]  
655     cord_individual_obj[indivial_i, :] = [ 2. 5. 76. 81.]  
656     cord_individual_obj[indivial_i, :] = [ 3. 9. 76. 85.]  
657     cord_individual_obj[indivial_i, :] = [ 4. 5. 106. 111.]  
658     cord_individual_obj[indivial_i, :] = [ 5. 8. 72. 80.]  
659     cord_individual_obj[indivial_i, :] = [ 6. 9. 60. 69.]  
660     cord_individual_obj[indivial_i, :] = [ 7. 7. 39. 46.]  
661     cord_individual_obj[indivial_i, :] = [ 8. 8. 81. 89.]  
662     cord_individual_obj[indivial_i, :] = [ 9. 7. 66. 73.]  
663     cord_individual_obj[indivial_i, :] = [10. 6. 22. 28.]  
664     cord_individual_obj[indivial_i, :] = [11. 6. 67. 73.]  
665     cord_individual_obj[indivial_i, :] = [12. 7. 100. 107.]  
666     cord_individual_obj[indivial_i, :] = [13. 5. 97. 102.]  
667     cord_individual_obj[indivial_i, :] = [14. 7. 11. 18.]
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668 cord_individual_obj[indivial_i,:] = [15. 10. 65. 75.]
669 cord_individual_obj[indivial_i,:] = [16. 6. 31. 37.]
670 cord_individual_obj[indivial_i,:] = [17. 6. 96. 102.]
671 cord_individual_obj[indivial_i,:] = [18. 7. 98. 105.]
672 cord_individual_obj[indivial_i,:] = [19. 6. 116. 122.]
673 cord_individual_obj[indivial_i,:] = [20. 8. 152. 160.]
674 cord_individual_obj[indivial_i,:] = [21. 7. 66. 73.]
675 cord_individual_obj[indivial_i,:] = [22. 6. 57. 63.]
676 cord_individual_obj[indivial_i,:] = [23. 7. 28. 35.]
677 cord_individual_obj[indivial_i,:] = [24. 5. 76. 81.]
678
679 min(cord_individual_obj[:, 3]) = 18.0
680 historl_G_best_iter[iter, 3] = 18.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 133.0
689 Proportion_of_area = 0.12314814814814815
690 BEST_CHROM =
691     berth: [15. 4.5 11. 25.5 5. 8.5 19. 11.5 1.5 25.5 19. ]
692     time: [0. 4. 4. 2. 0. 0. 1. 0. 0. 0. 0.]
693     num_QC: [3. 2. 2. 2. 4. 2. 1. 3. 3. 2. 4.]
694 Objective function values and some other indicators:
695     Obj0 = 7.00          Obj1 = 11.00          Obj0 + Obj1 = 18.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 11.00
698 Total index of q during berthing: 602.00
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: 0.0           gama_i1: 1
    .0           gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work
    load_i: 80.0           work load gap_i: 0
701
    V_id: 1           li: 9.0           xi: 4.5           bow of i: 0.0           tail of i: 9.0           gama_i0: 4.0           gama_i1: 5.0
    .0           gama_i1 + 1: 6.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work load_i:
    80.0           work load gap_i: 0
702
    V_id: 2           li: 4.0           xi: 11.0           bow of i: 9.0           tail of i: 13.0           gama_i0: 4.0           gama_i1: 7
    .0           gama_i1 + 1: 8.0           gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 160.0           work
    load_i: 160.0           work load gap_i: 0
703
    V_id: 3           li: 9.0           xi: 25.5           bow of i: 21.0           tail of i: 30.0           gama_i0: 2.0           gama_i1: 4
    .0           gama_i1 + 1: 5.0           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
704
    V_id: 4           li: 4.0           xi: 5.0           bow of i: 3.0           tail of i: 7.0           gama_i0: 0.0           gama_i1: 1.0
    .0           gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 140.0           work load_i:
    140.0           work load gap_i: 0
705
    V_id: 5           li: 3.0           xi: 8.5           bow of i: 7.0           tail of i: 10.0           gama_i0: 0.0           gama_i1: 3
    .0           gama_i1 + 1: 4.0           gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 160.0           work load_i:
    160.0           work load gap_i: 0
706
    V_id: 6           li: 4.0           xi: 19.0           bow of i: 17.0           tail of i: 21.0           gama_i0: 1.0           gama_i1: 3
    .0           gama_i1 + 1: 4.0           gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 60.0           work
    load_i: 60.0           work load gap_i: 0
707
    V_id: 7           li: 3.0           xi: 11.5           bow of i: 10.0           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: 100.0           work
    load_i: 100.0           work load gap_i: 0
708
    V_id: 8           li: 3.0           xi: 1.5           bow of i: 0.0           tail of i: 3.0           gama_i0: 0.0           gama_i1: 2
    .0           gama_i1 + 1: 3.0           gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 160.0           work load_i:
    160.0           work load gap_i: 0
709
    V_id: 9           li: 9.0           xi: 25.5           bow of i: 21.0           tail of i: 30.0           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: 60.0           work
    load_i: 60.0           work load gap_i: 0
710
    V_id: 10          li: 4.0           xi: 19.0           bow of i: 17.0           tail of i: 21.0           gama_i0: 0.0           gama_i1: 1
    : 0.0           gama_i1 + 1: 1.0           gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 80.0           work
    load_i: 80.0           work load gap_i: 0
711
712 Algorithm finished and the total CPU time: 286 s
713 End
714

```