

unknown

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80 cord_individual_obj[indivial_i,:] = [ 16. 11. 140. 151.]
81 cord_individual_obj[indivial_i,:] = [ 17. 9. 187. 196.]
82 cord_individual_obj[indivial_i,:] = [ 18. 8. 116. 124.]
83 cord_individual_obj[indivial_i,:] = [ 19. 9. 136. 145.]
84 cord_individual_obj[indivial_i,:] = [ 20. 10. 114. 124.]
85 cord_individual_obj[indivial_i,:] = [ 21. 11. 149. 160.]
86 cord_individual_obj[indivial_i,:] = [ 22. 8. 186. 194.]
87 cord_individual_obj[indivial_i,:] = [ 23. 8. 172. 180.]
88 cord_individual_obj[indivial_i,:] = [ 24. 7. 173. 180.]
89
90 min(cord_individual_obj[:,3]) = 73.0
91 historl_G_best_iter[iter, 3] = 73.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 13. 170. 183.]
96 cord_individual_obj[indivial_i,:] = [ 1. 11. 101. 112.]
97 cord_individual_obj[indivial_i,:] = [ 2. 11. 129. 140.]
98 cord_individual_obj[indivial_i,:] = [ 3. 9. 117. 126.]
99 cord_individual_obj[indivial_i,:] = [ 4. 10. 63. 73.]
100 cord_individual_obj[indivial_i,:] = [ 5. 10. 87. 97.]
101 cord_individual_obj[indivial_i,:] = [ 6. 10. 112. 122.]
102 cord_individual_obj[indivial_i,:] = [ 7. 9. 100. 109.]
103 cord_individual_obj[indivial_i,:] = [ 8. 11. 124. 135.]
104 cord_individual_obj[indivial_i,:] = [ 9. 10. 106. 116.]
105 cord_individual_obj[indivial_i,:] = [ 10. 9. 147. 156.]
106 cord_individual_obj[indivial_i,:] = [ 11. 10. 94. 104.]
107 cord_individual_obj[indivial_i,:] = [ 12. 11. 116. 127.]
108 cord_individual_obj[indivial_i,:] = [ 13. 8. 141. 149.]
109 cord_individual_obj[indivial_i,:] = [ 14. 10. 113. 123.]
110 cord_individual_obj[indivial_i,:] = [ 15. 8. 145. 153.]
111 cord_individual_obj[indivial_i,:] = [ 16. 12. 194. 206.]
112 cord_individual_obj[indivial_i,:] = [ 17. 9. 136. 145.]
113 cord_individual_obj[indivial_i,:] = [ 18. 10. 124. 134.]
114 cord_individual_obj[indivial_i,:] = [ 19. 10. 78. 88.]
115 cord_individual_obj[indivial_i,:] = [ 20. 9. 110. 119.]
116 cord_individual_obj[indivial_i,:] = [ 21. 11. 89. 100.]
117 cord_individual_obj[indivial_i,:] = [ 22. 12. 170. 182.]
118 cord_individual_obj[indivial_i,:] = [ 23. 11. 169. 180.]
119 cord_individual_obj[indivial_i,:] = [ 24. 10. 70. 80.]
120
121 min(cord_individual_obj[:,3]) = 73.0
122 historl_G_best_iter[iter, 3] = 73.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 10. 124. 134.]
127 cord_individual_obj[indivial_i,:] = [ 1. 10. 99. 109.]
128 cord_individual_obj[indivial_i,:] = [ 2. 10. 82. 92.]
129 cord_individual_obj[indivial_i,:] = [ 3. 7. 174. 181.]
130 cord_individual_obj[indivial_i,:] = [ 4. 10. 115. 125.]
131 cord_individual_obj[indivial_i,:] = [ 5. 10. 83. 93.]
132 cord_individual_obj[indivial_i,:] = [ 6. 10. 125. 135.]
133 cord_individual_obj[indivial_i,:] = [ 7. 11. 143. 154.]
134 cord_individual_obj[indivial_i,:] = [ 8. 8. 62. 70.]
135 cord_individual_obj[indivial_i,:] = [ 9. 8. 109. 117.]
136 cord_individual_obj[indivial_i,:] = [ 10. 8. 82. 90.]
137 cord_individual_obj[indivial_i,:] = [ 11. 10. 93. 103.]
138 cord_individual_obj[indivial_i,:] = [ 12. 10. 96. 106.]
139 cord_individual_obj[indivial_i,:] = [ 13. 9. 88. 97.]
140 cord_individual_obj[indivial_i,:] = [ 14. 10. 124. 134.]
141 cord_individual_obj[indivial_i,:] = [ 15. 10. 103. 113.]
142 cord_individual_obj[indivial_i,:] = [ 16. 10. 63. 73.]
143 cord_individual_obj[indivial_i,:] = [ 17. 9. 102. 111.]
144 cord_individual_obj[indivial_i,:] = [ 18. 10. 111. 121.]
145 cord_individual_obj[indivial_i,:] = [ 19. 9. 80. 89.]
146 cord_individual_obj[indivial_i,:] = [ 20. 13. 124. 137.]
147 cord_individual_obj[indivial_i,:] = [ 21. 9. 114. 123.]
148 cord_individual_obj[indivial_i,:] = [ 22. 10. 150. 160.]
149 cord_individual_obj[indivial_i,:] = [ 23. 10. 88. 98.]
150 cord_individual_obj[indivial_i,:] = [ 24. 12. 98. 110.]
151
152 min(cord_individual_obj[:,3]) = 70.0
153 historl_G_best_iter[iter, 3] = 70.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 9. 96. 105.]
158 cord_individual_obj[indivial_i,:] = [ 1. 8. 142. 150.]
159 cord_individual_obj[indivial_i,:] = [ 2. 8. 142. 150.]
160 cord_individual_obj[indivial_i,:] = [ 3. 8. 62. 70.]
161 cord_individual_obj[indivial_i,:] = [ 4. 9. 139. 148.]
162 cord_individual_obj[indivial_i,:] = [ 5. 10. 103. 113.]
163 cord_individual_obj[indivial_i,:] = [ 6. 10. 162. 172.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 10. 129. 139.]
165 cord_individual_obj[indivial_i,:] = [ 8. 9. 135. 144.]
166 cord_individual_obj[indivial_i,:] = [ 9. 8. 154. 162.]
167 cord_individual_obj[indivial_i,:] = [10. 8. 88. 96.]
168 cord_individual_obj[indivial_i,:] = [11. 9. 113. 122.]
169 cord_individual_obj[indivial_i,:] = [12. 11. 120. 131.]
170 cord_individual_obj[indivial_i,:] = [13. 11. 85. 96.]
171 cord_individual_obj[indivial_i,:] = [14. 9. 128. 137.]
172 cord_individual_obj[indivial_i,:] = [15. 9. 87. 96.]
173 cord_individual_obj[indivial_i,:] = [16. 10. 190. 200.]
174 cord_individual_obj[indivial_i,:] = [17. 10. 124. 134.]
175 cord_individual_obj[indivial_i,:] = [18. 7. 86. 93.]
176 cord_individual_obj[indivial_i,:] = [19. 9. 106. 115.]
177 cord_individual_obj[indivial_i,:] = [20. 9. 111. 120.]
178 cord_individual_obj[indivial_i,:] = [21. 9. 112. 121.]
179 cord_individual_obj[indivial_i,:] = [22. 9. 115. 124.]
180 cord_individual_obj[indivial_i,:] = [23. 9. 120. 129.]
181 cord_individual_obj[indivial_i,:] = [24. 8. 124. 132.]
182
183 min(cord_individual_obj[:,3]) = 70.0
184 historl_G_best_iter[iter,3] = 70.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 9. 141. 150.]
189 cord_individual_obj[indivial_i,:] = [ 1. 8. 109. 117.]
190 cord_individual_obj[indivial_i,:] = [ 2. 9. 105. 114.]
191 cord_individual_obj[indivial_i,:] = [ 3. 9. 139. 148.]
192 cord_individual_obj[indivial_i,:] = [ 4. 8. 109. 117.]
193 cord_individual_obj[indivial_i,:] = [ 5. 9. 155. 164.]
194 cord_individual_obj[indivial_i,:] = [ 6. 9. 128. 137.]
195 cord_individual_obj[indivial_i,:] = [ 7. 11. 113. 124.]
196 cord_individual_obj[indivial_i,:] = [ 8. 10. 125. 135.]
197 cord_individual_obj[indivial_i,:] = [ 9. 8. 126. 134.]
198 cord_individual_obj[indivial_i,:] = [10. 9. 111. 120.]
199 cord_individual_obj[indivial_i,:] = [11. 11. 136. 147.]
200 cord_individual_obj[indivial_i,:] = [12. 9. 142. 151.]
201 cord_individual_obj[indivial_i,:] = [13. 8. 124. 132.]
202 cord_individual_obj[indivial_i,:] = [14. 9. 76. 85.]
203 cord_individual_obj[indivial_i,:] = [15. 9. 115. 124.]
204 cord_individual_obj[indivial_i,:] = [16. 8. 62. 70.]
205 cord_individual_obj[indivial_i,:] = [17. 8. 91. 99.]
206 cord_individual_obj[indivial_i,:] = [18. 10. 112. 122.]
207 cord_individual_obj[indivial_i,:] = [19. 9. 83. 92.]
208 cord_individual_obj[indivial_i,:] = [20. 8. 107. 115.]
209 cord_individual_obj[indivial_i,:] = [21. 9. 120. 129.]
210 cord_individual_obj[indivial_i,:] = [22. 10. 85. 95.]
211 cord_individual_obj[indivial_i,:] = [23. 7. 147. 154.]
212 cord_individual_obj[indivial_i,:] = [24. 8. 141. 149.]
213
214 min(cord_individual_obj[:,3]) = 70.0
215 historl_G_best_iter[iter,3] = 70.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 9. 98. 107.]
220 cord_individual_obj[indivial_i,:] = [ 1. 8. 110. 118.]
221 cord_individual_obj[indivial_i,:] = [ 2. 9. 86. 95.]
222 cord_individual_obj[indivial_i,:] = [ 3. 8. 156. 164.]
223 cord_individual_obj[indivial_i,:] = [ 4. 9. 143. 152.]
224 cord_individual_obj[indivial_i,:] = [ 5. 8. 62. 70.]
225 cord_individual_obj[indivial_i,:] = [ 6. 10. 213. 223.]
226 cord_individual_obj[indivial_i,:] = [ 7. 9. 140. 149.]
227 cord_individual_obj[indivial_i,:] = [ 8. 8. 110. 118.]
228 cord_individual_obj[indivial_i,:] = [ 9. 8. 138. 146.]
229 cord_individual_obj[indivial_i,:] = [10. 8. 136. 144.]
230 cord_individual_obj[indivial_i,:] = [11. 8. 142. 150.]
231 cord_individual_obj[indivial_i,:] = [12. 9. 116. 125.]
232 cord_individual_obj[indivial_i,:] = [13. 9. 98. 107.]
233 cord_individual_obj[indivial_i,:] = [14. 9. 146. 155.]
234 cord_individual_obj[indivial_i,:] = [15. 9. 145. 154.]
235 cord_individual_obj[indivial_i,:] = [16. 8. 128. 136.]
236 cord_individual_obj[indivial_i,:] = [17. 8. 125. 133.]
237 cord_individual_obj[indivial_i,:] = [18. 9. 137. 146.]
238 cord_individual_obj[indivial_i,:] = [19. 9. 120. 129.]
239 cord_individual_obj[indivial_i,:] = [20. 8. 161. 169.]
240 cord_individual_obj[indivial_i,:] = [21. 9. 126. 135.]
241 cord_individual_obj[indivial_i,:] = [22. 9. 93. 102.]
242 cord_individual_obj[indivial_i,:] = [23. 8. 110. 118.]
243 cord_individual_obj[indivial_i,:] = [24. 9. 140. 149.]
244
245 min(cord_individual_obj[:,3]) = 70.0
246 historl_G_best_iter[iter,3] = 70.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0. 9. 107. 116.]
251 cord_individual_obj[indivial_i, :] = [ 1. 10. 122. 132.]
252 cord_individual_obj[indivial_i, :] = [ 2. 8. 108. 116.]
253 cord_individual_obj[indivial_i, :] = [ 3. 10. 126. 136.]
254 cord_individual_obj[indivial_i, :] = [ 4. 10. 138. 148.]
255 cord_individual_obj[indivial_i, :] = [ 5. 10. 184. 194.]
256 cord_individual_obj[indivial_i, :] = [ 6. 8. 62. 70.]
257 cord_individual_obj[indivial_i, :] = [ 7. 11. 119. 130.]
258 cord_individual_obj[indivial_i, :] = [ 8. 8. 98. 106.]
259 cord_individual_obj[indivial_i, :] = [ 9. 8. 160. 168.]
260 cord_individual_obj[indivial_i, :] = [ 10. 10. 128. 138.]
261 cord_individual_obj[indivial_i, :] = [ 11. 9. 121. 130.]
262 cord_individual_obj[indivial_i, :] = [ 12. 10. 99. 109.]
263 cord_individual_obj[indivial_i, :] = [ 13. 9. 114. 123.]
264 cord_individual_obj[indivial_i, :] = [ 14. 8. 142. 150.]
265 cord_individual_obj[indivial_i, :] = [ 15. 9. 110. 119.]
266 cord_individual_obj[indivial_i, :] = [ 16. 8. 116. 124.]
267 cord_individual_obj[indivial_i, :] = [ 17. 8. 95. 103.]
268 cord_individual_obj[indivial_i, :] = [ 18. 10. 126. 136.]
269 cord_individual_obj[indivial_i, :] = [ 19. 9. 122. 131.]
270 cord_individual_obj[indivial_i, :] = [ 20. 9. 155. 164.]
271 cord_individual_obj[indivial_i, :] = [ 21. 9. 114. 123.]
272 cord_individual_obj[indivial_i, :] = [ 22. 8. 125. 133.]
273 cord_individual_obj[indivial_i, :] = [ 23. 8. 78. 86.]
274 cord_individual_obj[indivial_i, :] = [ 24. 8. 128. 136.]
275

276 min(cord_individual_obj[:, 3]) = 70.0
277 historl_G_best_iter[iter, 3] = 70.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0. 9. 89. 98.]
282 cord_individual_obj[indivial_i, :] = [ 1. 10. 148. 158.]
283 cord_individual_obj[indivial_i, :] = [ 2. 9. 105. 114.]
284 cord_individual_obj[indivial_i, :] = [ 3. 9. 108. 117.]
285 cord_individual_obj[indivial_i, :] = [ 4. 8. 111. 119.]
286 cord_individual_obj[indivial_i, :] = [ 5. 8. 62. 70.]
287 cord_individual_obj[indivial_i, :] = [ 6. 8. 119. 127.]
288 cord_individual_obj[indivial_i, :] = [ 7. 11. 99. 110.]
289 cord_individual_obj[indivial_i, :] = [ 8. 9. 76. 85.]
290 cord_individual_obj[indivial_i, :] = [ 9. 8. 91. 99.]
291 cord_individual_obj[indivial_i, :] = [ 10. 8. 98. 106.]
292 cord_individual_obj[indivial_i, :] = [ 11. 10. 153. 163.]
293 cord_individual_obj[indivial_i, :] = [ 12. 11. 139. 150.]
294 cord_individual_obj[indivial_i, :] = [ 13. 10. 108. 118.]
295 cord_individual_obj[indivial_i, :] = [ 14. 8. 104. 112.]
296 cord_individual_obj[indivial_i, :] = [ 15. 10. 152. 162.]
297 cord_individual_obj[indivial_i, :] = [ 16. 8. 162. 170.]
298 cord_individual_obj[indivial_i, :] = [ 17. 9. 194. 203.]
299 cord_individual_obj[indivial_i, :] = [ 18. 9. 70. 79.]
300 cord_individual_obj[indivial_i, :] = [ 19. 11. 109. 120.]
301 cord_individual_obj[indivial_i, :] = [ 20. 9. 123. 132.]
302 cord_individual_obj[indivial_i, :] = [ 21. 8. 96. 104.]
303 cord_individual_obj[indivial_i, :] = [ 22. 12. 143. 155.]
304 cord_individual_obj[indivial_i, :] = [ 23. 8. 123. 131.]
305 cord_individual_obj[indivial_i, :] = [ 24. 9. 116. 125.]
306

307 min(cord_individual_obj[:, 3]) = 70.0
308 historl_G_best_iter[iter, 3] = 70.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0. 10. 93. 103.]
313 cord_individual_obj[indivial_i, :] = [ 1. 8. 113. 121.]
314 cord_individual_obj[indivial_i, :] = [ 2. 8. 95. 103.]
315 cord_individual_obj[indivial_i, :] = [ 3. 9. 147. 156.]
316 cord_individual_obj[indivial_i, :] = [ 4. 8. 117. 125.]
317 cord_individual_obj[indivial_i, :] = [ 5. 10. 154. 164.]
318 cord_individual_obj[indivial_i, :] = [ 6. 9. 77. 86.]
319 cord_individual_obj[indivial_i, :] = [ 7. 10. 127. 137.]
320 cord_individual_obj[indivial_i, :] = [ 8. 8. 110. 118.]
321 cord_individual_obj[indivial_i, :] = [ 9. 8. 173. 181.]
322 cord_individual_obj[indivial_i, :] = [ 10. 9. 90. 99.]
323 cord_individual_obj[indivial_i, :] = [ 11. 8. 113. 121.]
324 cord_individual_obj[indivial_i, :] = [ 12. 11. 112. 123.]
325 cord_individual_obj[indivial_i, :] = [ 13. 10. 92. 102.]
326 cord_individual_obj[indivial_i, :] = [ 14. 9. 132. 141.]
327 cord_individual_obj[indivial_i, :] = [ 15. 10. 137. 147.]
328 cord_individual_obj[indivial_i, :] = [ 16. 9. 142. 151.]
329 cord_individual_obj[indivial_i, :] = [ 17. 8. 62. 70.]
330 cord_individual_obj[indivial_i, :] = [ 18. 9. 149. 158.]
331 cord_individual_obj[indivial_i, :] = [ 19. 9. 141. 150.]

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332 cord_individual_obj[indivial_i,:] = [ 20. 9. 142. 151.]
333 cord_individual_obj[indivial_i,:] = [21. 10. 89. 99.]
334 cord_individual_obj[indivial_i,:] = [22. 8. 91. 99.]
335 cord_individual_obj[indivial_i,:] = [ 23. 10. 144. 154.]
336 cord_individual_obj[indivial_i,:] = [ 24. 10. 186. 196.]
337
338 min(cord_individual_obj[:,3]) = 70.0
339 histol_G_best_iter[iter,3] = 70.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i,:] = [ 0. 9. 106. 115.]
344 cord_individual_obj[indivial_i,:] = [ 1. 9. 92. 101.]
345 cord_individual_obj[indivial_i,:] = [ 2. 9. 119. 128.]
346 cord_individual_obj[indivial_i,:] = [ 3. 9. 103. 112.]
347 cord_individual_obj[indivial_i,:] = [ 4. 9. 140. 149.]
348 cord_individual_obj[indivial_i,:] = [ 5. 10. 188. 198.]
349 cord_individual_obj[indivial_i,:] = [ 6. 9. 98. 107.]
350 cord_individual_obj[indivial_i,:] = [ 7. 9. 123. 132.]
351 cord_individual_obj[indivial_i,:] = [ 8. 9. 92. 101.]
352 cord_individual_obj[indivial_i,:] = [ 9. 8. 182. 190.]
353 cord_individual_obj[indivial_i,:] = [10. 9. 89. 98.]
354 cord_individual_obj[indivial_i,:] = [11. 10. 72. 82.]
355 cord_individual_obj[indivial_i,:] = [12. 9. 229. 238.]
356 cord_individual_obj[indivial_i,:] = [13. 10. 137. 147.]
357 cord_individual_obj[indivial_i,:] = [14. 9. 75. 84.]
358 cord_individual_obj[indivial_i,:] = [15. 8. 117. 125.]
359 cord_individual_obj[indivial_i,:] = [16. 7. 144. 151.]
360 cord_individual_obj[indivial_i,:] = [17. 9. 103. 112.]
361 cord_individual_obj[indivial_i,:] = [18. 8. 125. 133.]
362 cord_individual_obj[indivial_i,:] = [19. 9. 115. 124.]
363 cord_individual_obj[indivial_i,:] = [20. 8. 100. 108.]
364 cord_individual_obj[indivial_i,:] = [21. 9. 122. 131.]
365 cord_individual_obj[indivial_i,:] = [22. 9. 93. 102.]
366 cord_individual_obj[indivial_i,:] = [23. 8. 143. 151.]
367 cord_individual_obj[indivial_i,:] = [24. 8. 62. 70.]
368
369 min(cord_individual_obj[:,3]) = 70.0
370 histol_G_best_iter[iter,3] = 70.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i,:] = [ 0. 8. 121. 129.]
375 cord_individual_obj[indivial_i,:] = [ 1. 10. 108. 118.]
376 cord_individual_obj[indivial_i,:] = [ 2. 8. 144. 152.]
377 cord_individual_obj[indivial_i,:] = [ 3. 8. 110. 118.]
378 cord_individual_obj[indivial_i,:] = [ 4. 9. 140. 149.]
379 cord_individual_obj[indivial_i,:] = [ 5. 9. 166. 175.]
380 cord_individual_obj[indivial_i,:] = [ 6. 8. 155. 163.]
381 cord_individual_obj[indivial_i,:] = [ 7. 9. 125. 134.]
382 cord_individual_obj[indivial_i,:] = [ 8. 10. 105. 115.]
383 cord_individual_obj[indivial_i,:] = [ 9. 10. 110. 120.]
384 cord_individual_obj[indivial_i,:] = [10. 9. 106. 115.]
385 cord_individual_obj[indivial_i,:] = [11. 10. 83. 93.]
386 cord_individual_obj[indivial_i,:] = [12. 8. 62. 70.]
387 cord_individual_obj[indivial_i,:] = [13. 9. 104. 113.]
388 cord_individual_obj[indivial_i,:] = [14. 10. 99. 109.]
389 cord_individual_obj[indivial_i,:] = [15. 9. 111. 120.]
390 cord_individual_obj[indivial_i,:] = [16. 8. 141. 149.]
391 cord_individual_obj[indivial_i,:] = [17. 8. 109. 117.]
392 cord_individual_obj[indivial_i,:] = [18. 7. 87. 94.]
393 cord_individual_obj[indivial_i,:] = [19. 9. 99. 108.]
394 cord_individual_obj[indivial_i,:] = [20. 10. 165. 175.]
395 cord_individual_obj[indivial_i,:] = [21. 10. 105. 115.]
396 cord_individual_obj[indivial_i,:] = [22. 8. 100. 108.]
397 cord_individual_obj[indivial_i,:] = [23. 8. 83. 91.]
398 cord_individual_obj[indivial_i,:] = [24. 8. 88. 96.]
399
400 min(cord_individual_obj[:,3]) = 70.0
401 histol_G_best_iter[iter,3] = 70.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i,:] = [ 0. 9. 102. 111.]
406 cord_individual_obj[indivial_i,:] = [ 1. 9. 141. 150.]
407 cord_individual_obj[indivial_i,:] = [ 2. 10. 170. 180.]
408 cord_individual_obj[indivial_i,:] = [ 3. 9. 105. 114.]
409 cord_individual_obj[indivial_i,:] = [ 4. 9. 98. 107.]
410 cord_individual_obj[indivial_i,:] = [ 5. 8. 62. 70.]
411 cord_individual_obj[indivial_i,:] = [ 6. 8. 125. 133.]
412 cord_individual_obj[indivial_i,:] = [ 7. 10. 109. 119.]
413 cord_individual_obj[indivial_i,:] = [ 8. 10. 134. 144.]
414 cord_individual_obj[indivial_i,:] = [ 9. 9. 160. 169.]
415 cord_individual_obj[indivial_i,:] = [10. 9. 88. 97.]

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416 cord_individual_obj[indivial_i,:] = [ 11. 9. 118. 127.]
417 cord_individual_obj[indivial_i,:] = [ 12. 9. 175. 184.]
418 cord_individual_obj[indivial_i,:] = [ 13. 8. 115. 123.]
419 cord_individual_obj[indivial_i,:] = [ 14. 7. 108. 115.]
420 cord_individual_obj[indivial_i,:] = [ 15. 8. 148. 156.]
421 cord_individual_obj[indivial_i,:] = [ 16. 8. 134. 142.]
422 cord_individual_obj[indivial_i,:] = [ 17. 10. 135. 145.]
423 cord_individual_obj[indivial_i,:] = [ 18. 9. 72. 81.]
424 cord_individual_obj[indivial_i,:] = [ 19. 12. 137. 149.]
425 cord_individual_obj[indivial_i,:] = [ 20. 9. 208. 217.]
426 cord_individual_obj[indivial_i,:] = [ 21. 9. 95. 104.]
427 cord_individual_obj[indivial_i,:] = [ 22. 12. 155. 167.]
428 cord_individual_obj[indivial_i,:] = [ 23. 9. 118. 127.]
429 cord_individual_obj[indivial_i,:] = [ 24. 9. 87. 96.]
430
431 min(cord_individual_obj[:,3]) = 70.0
432 histol_G_best_iter[iter,3] = 70.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 8. 136. 144.]
437 cord_individual_obj[indivial_i,:] = [ 1. 11. 126. 137.]
438 cord_individual_obj[indivial_i,:] = [ 2. 9. 113. 122.]
439 cord_individual_obj[indivial_i,:] = [ 3. 8. 133. 141.]
440 cord_individual_obj[indivial_i,:] = [ 4. 10. 193. 203.]
441 cord_individual_obj[indivial_i,:] = [ 5. 9. 96. 105.]
442 cord_individual_obj[indivial_i,:] = [ 6. 10. 125. 135.]
443 cord_individual_obj[indivial_i,:] = [ 7. 9. 106. 115.]
444 cord_individual_obj[indivial_i,:] = [ 8. 10. 167. 177.]
445 cord_individual_obj[indivial_i,:] = [ 9. 9. 150. 159.]
446 cord_individual_obj[indivial_i,:] = [ 10. 9. 121. 130.]
447 cord_individual_obj[indivial_i,:] = [ 11. 8. 145. 153.]
448 cord_individual_obj[indivial_i,:] = [ 12. 10. 121. 131.]
449 cord_individual_obj[indivial_i,:] = [ 13. 10. 75. 85.]
450 cord_individual_obj[indivial_i,:] = [ 14. 9. 110. 119.]
451 cord_individual_obj[indivial_i,:] = [ 15. 8. 105. 113.]
452 cord_individual_obj[indivial_i,:] = [ 16. 10. 127. 137.]
453 cord_individual_obj[indivial_i,:] = [ 17. 9. 120. 129.]
454 cord_individual_obj[indivial_i,:] = [ 18. 8. 115. 123.]
455 cord_individual_obj[indivial_i,:] = [ 19. 9. 91. 100.]
456 cord_individual_obj[indivial_i,:] = [ 20. 8. 62. 70.]
457 cord_individual_obj[indivial_i,:] = [ 21. 10. 63. 73.]
458 cord_individual_obj[indivial_i,:] = [ 22. 10. 90. 100.]
459 cord_individual_obj[indivial_i,:] = [ 23. 9. 87. 96.]
460 cord_individual_obj[indivial_i,:] = [ 24. 8. 140. 148.]
461
462 min(cord_individual_obj[:,3]) = 70.0
463 histol_G_best_iter[iter,3] = 70.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 8. 107. 115.]
468 cord_individual_obj[indivial_i,:] = [ 1. 9. 123. 132.]
469 cord_individual_obj[indivial_i,:] = [ 2. 8. 153. 161.]
470 cord_individual_obj[indivial_i,:] = [ 3. 9. 119. 128.]
471 cord_individual_obj[indivial_i,:] = [ 4. 8. 62. 70.]
472 cord_individual_obj[indivial_i,:] = [ 5. 9. 146. 155.]
473 cord_individual_obj[indivial_i,:] = [ 6. 10. 168. 178.]
474 cord_individual_obj[indivial_i,:] = [ 7. 10. 122. 132.]
475 cord_individual_obj[indivial_i,:] = [ 8. 8. 98. 106.]
476 cord_individual_obj[indivial_i,:] = [ 9. 9. 156. 165.]
477 cord_individual_obj[indivial_i,:] = [ 10. 9. 133. 142.]
478 cord_individual_obj[indivial_i,:] = [ 11. 9. 132. 141.]
479 cord_individual_obj[indivial_i,:] = [ 12. 9. 103. 112.]
480 cord_individual_obj[indivial_i,:] = [ 13. 10. 88. 98.]
481 cord_individual_obj[indivial_i,:] = [ 14. 8. 142. 150.]
482 cord_individual_obj[indivial_i,:] = [ 15. 9. 114. 123.]
483 cord_individual_obj[indivial_i,:] = [ 16. 8. 132. 140.]
484 cord_individual_obj[indivial_i,:] = [ 17. 8. 99. 107.]
485 cord_individual_obj[indivial_i,:] = [ 18. 8. 72. 80.]
486 cord_individual_obj[indivial_i,:] = [ 19. 10. 129. 139.]
487 cord_individual_obj[indivial_i,:] = [ 20. 9. 151. 160.]
488 cord_individual_obj[indivial_i,:] = [ 21. 8. 63. 71.]
489 cord_individual_obj[indivial_i,:] = [ 22. 11. 125. 136.]
490 cord_individual_obj[indivial_i,:] = [ 23. 8. 112. 120.]
491 cord_individual_obj[indivial_i,:] = [ 24. 9. 94. 103.]
492
493 min(cord_individual_obj[:,3]) = 70.0
494 histol_G_best_iter[iter,3] = 70.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 8. 95. 103.]
499 cord_individual_obj[indivial_i,:] = [ 1. 8. 122. 130.]

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500 cord_individual_obj[indivial_i, :] = [ 2. 9. 127. 136.]
501 cord_individual_obj[indivial_i, :] = [ 3. 10. 130. 140.]
502 cord_individual_obj[indivial_i, :] = [ 4. 8. 151. 159.]
503 cord_individual_obj[indivial_i, :] = [ 5. 9. 142. 151.]
504 cord_individual_obj[indivial_i, :] = [ 6. 8. 62. 70.]
505 cord_individual_obj[indivial_i, :] = [ 7. 8. 122. 130.]
506 cord_individual_obj[indivial_i, :] = [ 8. 9. 94. 103.]
507 cord_individual_obj[indivial_i, :] = [ 9. 8. 126. 134.]
508 cord_individual_obj[indivial_i, :] = [ 10. 8. 168. 176.]
509 cord_individual_obj[indivial_i, :] = [ 11. 11. 123. 134.]
510 cord_individual_obj[indivial_i, :] = [ 12. 9. 93. 102.]
511 cord_individual_obj[indivial_i, :] = [ 13. 8. 131. 139.]
512 cord_individual_obj[indivial_i, :] = [ 14. 10. 113. 123.]
513 cord_individual_obj[indivial_i, :] = [ 15. 7. 136. 143.]
514 cord_individual_obj[indivial_i, :] = [ 16. 7. 106. 113.]
515 cord_individual_obj[indivial_i, :] = [ 17. 8. 96. 104.]
516 cord_individual_obj[indivial_i, :] = [ 18. 9. 108. 117.]
517 cord_individual_obj[indivial_i, :] = [ 19. 10. 124. 134.]
518 cord_individual_obj[indivial_i, :] = [ 20. 11. 121. 132.]
519 cord_individual_obj[indivial_i, :] = [ 21. 8. 104. 112.]
520 cord_individual_obj[indivial_i, :] = [ 22. 10. 124. 134.]
521 cord_individual_obj[indivial_i, :] = [ 23. 7. 100. 107.]
522 cord_individual_obj[indivial_i, :] = [ 24. 11. 91. 102.]
523
524 min(cord_individual_obj[:, 3]) = 70.0
525 histol_G_best_iter[iter, 3] = 70.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i, :] = [ 0. 9. 157. 166.]
530 cord_individual_obj[indivial_i, :] = [ 1. 11. 129. 140.]
531 cord_individual_obj[indivial_i, :] = [ 2. 10. 98. 108.]
532 cord_individual_obj[indivial_i, :] = [ 3. 10. 154. 164.]
533 cord_individual_obj[indivial_i, :] = [ 4. 9. 138. 147.]
534 cord_individual_obj[indivial_i, :] = [ 5. 11. 138. 149.]
535 cord_individual_obj[indivial_i, :] = [ 6. 9. 136. 145.]
536 cord_individual_obj[indivial_i, :] = [ 7. 8. 122. 130.]
537 cord_individual_obj[indivial_i, :] = [ 8. 10. 135. 145.]
538 cord_individual_obj[indivial_i, :] = [ 9. 9. 75. 84.]
539 cord_individual_obj[indivial_i, :] = [ 10. 8. 62. 70.]
540 cord_individual_obj[indivial_i, :] = [ 11. 9. 138. 147.]
541 cord_individual_obj[indivial_i, :] = [ 12. 9. 134. 143.]
542 cord_individual_obj[indivial_i, :] = [ 13. 11. 88. 99.]
543 cord_individual_obj[indivial_i, :] = [ 14. 10. 93. 103.]
544 cord_individual_obj[indivial_i, :] = [ 15. 9. 122. 131.]
545 cord_individual_obj[indivial_i, :] = [ 16. 9. 85. 94.]
546 cord_individual_obj[indivial_i, :] = [ 17. 8. 151. 159.]
547 cord_individual_obj[indivial_i, :] = [ 18. 8. 175. 183.]
548 cord_individual_obj[indivial_i, :] = [ 19. 10. 134. 144.]
549 cord_individual_obj[indivial_i, :] = [ 20. 9. 145. 154.]
550 cord_individual_obj[indivial_i, :] = [ 21. 9. 92. 101.]
551 cord_individual_obj[indivial_i, :] = [ 22. 9. 128. 137.]
552 cord_individual_obj[indivial_i, :] = [ 23. 10. 162. 172.]
553 cord_individual_obj[indivial_i, :] = [ 24. 9. 127. 136.]
554
555 min(cord_individual_obj[:, 3]) = 70.0
556 histol_G_best_iter[iter, 3] = 70.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i, :] = [ 0. 11. 134. 145.]
561 cord_individual_obj[indivial_i, :] = [ 1. 9. 110. 119.]
562 cord_individual_obj[indivial_i, :] = [ 2. 7. 116. 123.]
563 cord_individual_obj[indivial_i, :] = [ 3. 8. 141. 149.]
564 cord_individual_obj[indivial_i, :] = [ 4. 8. 90. 98.]
565 cord_individual_obj[indivial_i, :] = [ 5. 8. 166. 174.]
566 cord_individual_obj[indivial_i, :] = [ 6. 9. 181. 190.]
567 cord_individual_obj[indivial_i, :] = [ 7. 8. 128. 136.]
568 cord_individual_obj[indivial_i, :] = [ 8. 9. 115. 124.]
569 cord_individual_obj[indivial_i, :] = [ 9. 8. 108. 116.]
570 cord_individual_obj[indivial_i, :] = [ 10. 9. 82. 91.]
571 cord_individual_obj[indivial_i, :] = [ 11. 9. 92. 101.]
572 cord_individual_obj[indivial_i, :] = [ 12. 9. 97. 106.]
573 cord_individual_obj[indivial_i, :] = [ 13. 8. 122. 130.]
574 cord_individual_obj[indivial_i, :] = [ 14. 10. 119. 129.]
575 cord_individual_obj[indivial_i, :] = [ 15. 8. 125. 133.]
576 cord_individual_obj[indivial_i, :] = [ 16. 8. 155. 163.]
577 cord_individual_obj[indivial_i, :] = [ 17. 11. 144. 155.]
578 cord_individual_obj[indivial_i, :] = [ 18. 8. 62. 70.]
579 cord_individual_obj[indivial_i, :] = [ 19. 10. 86. 96.]
580 cord_individual_obj[indivial_i, :] = [ 20. 8. 147. 155.]
581 cord_individual_obj[indivial_i, :] = [ 21. 8. 133. 141.]
582 cord_individual_obj[indivial_i, :] = [ 22. 10. 132. 142.]
583 cord_individual_obj[indivial_i, :] = [ 23. 8. 95. 103.]

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584     cord_individual_obj[indivial_i, :] = [ 24. 10. 128. 138.]
585
586     min(cord_individual_obj[:, 3]) = 70.0
587     historl_G_best_iter[iter, 3] = 70.0
588 Begin iteration:
589
590 iter = 18
591     cord_individual_obj[indivial_i, :] = [ 0. 10. 115. 125.]
592     cord_individual_obj[indivial_i, :] = [ 1. 8. 109. 117.]
593     cord_individual_obj[indivial_i, :] = [ 2. 8. 83. 91.]
594     cord_individual_obj[indivial_i, :] = [ 3. 8. 134. 142.]
595     cord_individual_obj[indivial_i, :] = [ 4. 10. 138. 148.]
596     cord_individual_obj[indivial_i, :] = [ 5. 9. 84. 93.]
597     cord_individual_obj[indivial_i, :] = [ 6. 8. 62. 70.]
598     cord_individual_obj[indivial_i, :] = [ 7. 10. 96. 106.]
599     cord_individual_obj[indivial_i, :] = [ 8. 8. 99. 107.]
600     cord_individual_obj[indivial_i, :] = [ 9. 7. 133. 140.]
601     cord_individual_obj[indivial_i, :] = [ 10. 8. 113. 121.]
602     cord_individual_obj[indivial_i, :] = [ 11. 10. 157. 167.]
603     cord_individual_obj[indivial_i, :] = [ 12. 10. 111. 121.]
604     cord_individual_obj[indivial_i, :] = [ 13. 10. 94. 104.]
605     cord_individual_obj[indivial_i, :] = [ 14. 8. 154. 162.]
606     cord_individual_obj[indivial_i, :] = [ 15. 9. 116. 125.]
607     cord_individual_obj[indivial_i, :] = [ 16. 10. 87. 97.]
608     cord_individual_obj[indivial_i, :] = [ 17. 9. 149. 158.]
609     cord_individual_obj[indivial_i, :] = [ 18. 8. 74. 82.]
610     cord_individual_obj[indivial_i, :] = [ 19. 9. 108. 117.]
611     cord_individual_obj[indivial_i, :] = [ 20. 8. 133. 141.]
612     cord_individual_obj[indivial_i, :] = [ 21. 8. 157. 165.]
613     cord_individual_obj[indivial_i, :] = [ 22. 10. 105. 115.]
614     cord_individual_obj[indivial_i, :] = [ 23. 9. 163. 172.]
615     cord_individual_obj[indivial_i, :] = [ 24. 12. 152. 164.]
616
617     min(cord_individual_obj[:, 3]) = 70.0
618     historl_G_best_iter[iter, 3] = 70.0
619 Begin iteration:
620
621 iter = 19
622     cord_individual_obj[indivial_i, :] = [ 0. 8. 125. 133.]
623     cord_individual_obj[indivial_i, :] = [ 1. 8. 130. 138.]
624     cord_individual_obj[indivial_i, :] = [ 2. 8. 142. 150.]
625     cord_individual_obj[indivial_i, :] = [ 3. 9. 135. 144.]
626     cord_individual_obj[indivial_i, :] = [ 4. 8. 155. 163.]
627     cord_individual_obj[indivial_i, :] = [ 5. 11. 128. 139.]
628     cord_individual_obj[indivial_i, :] = [ 6. 9. 136. 145.]
629     cord_individual_obj[indivial_i, :] = [ 7. 8. 109. 117.]
630     cord_individual_obj[indivial_i, :] = [ 8. 8. 60. 68.]
631     cord_individual_obj[indivial_i, :] = [ 9. 8. 113. 121.]
632     cord_individual_obj[indivial_i, :] = [ 10. 10. 129. 139.]
633     cord_individual_obj[indivial_i, :] = [ 11. 8. 116. 124.]
634     cord_individual_obj[indivial_i, :] = [ 12. 9. 175. 184.]
635     cord_individual_obj[indivial_i, :] = [ 13. 10. 79. 89.]
636     cord_individual_obj[indivial_i, :] = [ 14. 8. 126. 134.]
637     cord_individual_obj[indivial_i, :] = [ 15. 9. 87. 96.]
638     cord_individual_obj[indivial_i, :] = [ 16. 9. 151. 160.]
639     cord_individual_obj[indivial_i, :] = [ 17. 9. 142. 151.]
640     cord_individual_obj[indivial_i, :] = [ 18. 8. 74. 82.]
641     cord_individual_obj[indivial_i, :] = [ 19. 8. 116. 124.]
642     cord_individual_obj[indivial_i, :] = [ 20. 9. 131. 140.]
643     cord_individual_obj[indivial_i, :] = [ 21. 8. 126. 134.]
644     cord_individual_obj[indivial_i, :] = [ 22. 9. 87. 96.]
645     cord_individual_obj[indivial_i, :] = [ 23. 8. 62. 70.]
646     cord_individual_obj[indivial_i, :] = [ 24. 8. 85. 93.]
647
648     min(cord_individual_obj[:, 3]) = 68.0
649     historl_G_best_iter[iter, 3] = 68.0
650 Begin iteration:
651
652 iter = 20
653     cord_individual_obj[indivial_i, :] = [ 0. 8. 160. 168.]
654     cord_individual_obj[indivial_i, :] = [ 1. 8. 141. 149.]
655     cord_individual_obj[indivial_i, :] = [ 2. 9. 126. 135.]
656     cord_individual_obj[indivial_i, :] = [ 3. 9. 91. 100.]
657     cord_individual_obj[indivial_i, :] = [ 4. 10. 112. 122.]
658     cord_individual_obj[indivial_i, :] = [ 5. 9. 123. 132.]
659     cord_individual_obj[indivial_i, :] = [ 6. 9. 96. 105.]
660     cord_individual_obj[indivial_i, :] = [ 7. 9. 145. 154.]
661     cord_individual_obj[indivial_i, :] = [ 8. 12. 115. 127.]
662     cord_individual_obj[indivial_i, :] = [ 9. 8. 107. 115.]
663     cord_individual_obj[indivial_i, :] = [ 10. 9. 112. 121.]
664     cord_individual_obj[indivial_i, :] = [ 11. 10. 101. 111.]
665     cord_individual_obj[indivial_i, :] = [ 12. 8. 60. 68.]
666     cord_individual_obj[indivial_i, :] = [ 13. 10. 112. 122.]
667     cord_individual_obj[indivial_i, :] = [ 14. 10. 122. 132.]

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668 cord_individual_obj[indivial_i,:] = [ 15. 8. 157. 165.]
669 cord_individual_obj[indivial_i,:] = [ 16. 12. 111. 123.]
670 cord_individual_obj[indivial_i,:] = [ 17. 10. 113. 123.]
671 cord_individual_obj[indivial_i,:] = [ 18. 9. 114. 123.]
672 cord_individual_obj[indivial_i,:] = [ 19. 8. 109. 117.]
673 cord_individual_obj[indivial_i,:] = [ 20. 9. 119. 128.]
674 cord_individual_obj[indivial_i,:] = [ 21. 8. 78. 86.]
675 cord_individual_obj[indivial_i,:] = [ 22. 10. 93. 103.]
676 cord_individual_obj[indivial_i,:] = [ 23. 9. 96. 105.]
677 cord_individual_obj[indivial_i,:] = [ 24. 7. 111. 118.]
678
679 min(cord_individual_obj[:, 3]) = 68.0
680 historl_G_best_iter[iter, 3] = 68.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 195.0
689 Proportion_of_area = 0.1805555555555555
690 BEST_CHROM =
691 berth: [20. 17.5 9.5 25. 4. 25.5 4.5 17. 23.5 11. 14.5 10.5 25.5 4.5
692 13.5 7. 1.5]
693 time: [2. 0. 6. 0. 6. 4. 4. 5. 6. 0. 2. 4. 2. 0. 4. 2. 1.]
694 num_QC: [3. 2. 2. 2. 4. 3. 4. 4. 3. 4. 5. 2. 2. 5. 1. 4. 2.]
695 Objective function values and some other indicators:
696 Obj0 = 8.00          Obj1 = 60.00        Obj0 + Obj1 = 68.00
697 Total movement of crane: 12.00
698 Total waiting time in berth position: 48.00
699 Total index of q during berthing: 1031.00
700 Specific arrangement for each vessel:
701 V_id: 0      li: 4.0           xi: 20.0           bow of i: 18.0           tail of i: 22.0           gama_i0: 2.0           gama_i1: 4
702 .0          gama_i1 + 1: 5.0     gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 160.0         work
703 load_i: 160.0           work load gap_i: 0
704 V_id: 1      li: 9.0           xi: 17.5           bow of i: 13.0           tail of i: 22.0           gama_i0: 0.0           gama_i1: 1
705 .0          gama_i1 + 1: 2.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 60.0         work
706 load_i: 60.0           work load gap_i: 0
707 V_id: 2      li: 3.0           xi: 9.5            bow of i: 8.0           tail of i: 11.0           gama_i0: 6.0           gama_i1: 8.0
708 .0          gama_i1 + 1: 9.0     gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 120.0        work load_i:
709 120.0           work load gap_i: 0
710 V_id: 3      li: 6.0            xi: 25.0           bow of i: 22.0           tail of i: 28.0           gama_i0: 0.0           gama_i1: 1
711 .0          gama_i1 + 1: 2.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0         work
712 load_i: 80.0           work load gap_i: 0
713 V_id: 4      li: 8.0            xi: 4.0            bow of i: 0.0           tail of i: 8.0            gama_i0: 6.0           gama_i1: 7.0
714 .0          gama_i1 + 1: 8.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 120.0        work load_i:
715 120.0           work load gap_i: 0
716 V_id: 5      li: 7.0            xi: 25.5           bow of i: 22.0           tail of i: 29.0           gama_i0: 4.0           gama_i1: 5
717 .0          gama_i1 + 1: 6.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 100.0        work
718 load_i: 100.0           work load gap_i: 0
719 V_id: 6      li: 9.0            xi: 4.5            bow of i: 0.0           tail of i: 9.0            gama_i0: 4.0           gama_i1: 5.0
720 .0          gama_i1 + 1: 6.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 100.0        work load_i:
721 100.0           work load gap_i: 0
722 V_id: 7      li: 4.0            xi: 17.0           bow of i: 15.0           tail of i: 19.0           gama_i0: 5.0           gama_i1: 6
723 .0          gama_i1 + 1: 7.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0        work
724 load_i: 160.0           work load gap_i: 0
725 V_id: 8      li: 9.0            xi: 23.5           bow of i: 19.0           tail of i: 28.0           gama_i0: 6.0           gama_i1: 7
726 .0          gama_i1 + 1: 8.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 100.0        work
727 load_i: 100.0           work load gap_i: 0
728 V_id: 9      li: 4.0            xi: 11.0           bow of i: 9.0            tail of i: 13.0           gama_i0: 0.0           gama_i1: 1
729 .0          gama_i1 + 1: 2.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0        work
730 load_i: 160.0           work load gap_i: 0
731 V_id: 10     li: 7.0            xi: 14.5           bow of i: 11.0           tail of i: 18.0           gama_i0: 2.0           gama_i1: 1
732 .0          gama_i1 + 1: 4.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0        work
733 load_i: 160.0           work load gap_i: 0
734 V_id: 11     li: 3.0            xi: 10.5           bow of i: 9.0            tail of i: 12.0           gama_i0: 4.0           gama_i1: 1
735 .0          gama_i1 + 1: 6.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 60.0         work
736 load_i: 60.0           work load gap_i: 0
737 V_id: 12     li: 7.0            xi: 25.5           bow of i: 22.0           tail of i: 29.0           gama_i0: 2.0           gama_i1: 1
738 .0          gama_i1 + 1: 4.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 60.0         work
739 load_i: 60.0           work load gap_i: 0
740 V_id: 13     li: 9.0            xi: 4.5            bow of i: 0.0           tail of i: 9.0            gama_i0: 0.0           gama_i1: 0
741 .0          gama_i1 + 1: 1.0     gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 80.0         work load_i:
742 80.0           work load gap_i: 0
743 V_id: 14     li: 3.0            xi: 13.5           bow of i: 12.0           tail of i: 15.0           gama_i0: 4.0           gama_i1: 1
744 .0          gama_i1 + 1: 7.0     gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 60.0         work
745 load_i: 60.0           work load gap_i: 0
746 V_id: 15     li: 8.0            xi: 7.0            bow of i: 3.0            tail of i: 11.0           gama_i0: 2.0           gama_i1: 3
747 .0          gama_i1 + 1: 4.0     gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 140.0        work
748 load_i: 140.0           work load gap_i: 0
749 V_id: 16     li: 3.0            xi: 1.5            bow of i: 0.0           tail of i: 3.0            gama_i0: 1.0           gama_i1: 3.0
750 .0          gama_i1 + 1: 4.0     gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 120.0        work load_i:
751 120.0           work load gap_i: 0

```

unknown

```
718  
719 Algorithm finished and the total CPU time: 438 s  
720 End  
721
```