

unknown

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80 cord_individual_obj[indivial_i,:] = [16. 6. 56. 62.]
81 cord_individual_obj[indivial_i,:] = [17. 6. 120. 126.]
82 cord_individual_obj[indivial_i,:] = [18. 6. 107. 113.]
83 cord_individual_obj[indivial_i,:] = [19. 6. 151. 157.]
84 cord_individual_obj[indivial_i,:] = [20. 7. 139. 146.]
85 cord_individual_obj[indivial_i,:] = [21. 9. 92. 101.]
86 cord_individual_obj[indivial_i,:] = [22. 7. 156. 163.]
87 cord_individual_obj[indivial_i,:] = [23. 7. 63. 70.]
88 cord_individual_obj[indivial_i,:] = [24. 7. 94. 101.]
89
90 min(cord_individual_obj[:,3]) = 62.0
91 historl_G_best_iter[iter, 3] = 62.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [0. 7. 89. 96.]
96 cord_individual_obj[indivial_i,:] = [1. 7. 70. 77.]
97 cord_individual_obj[indivial_i,:] = [2. 7. 123. 130.]
98 cord_individual_obj[indivial_i,:] = [3. 8. 127. 135.]
99 cord_individual_obj[indivial_i,:] = [4. 7. 125. 132.]
100 cord_individual_obj[indivial_i,:] = [5. 5. 121. 126.]
101 cord_individual_obj[indivial_i,:] = [6. 7. 127. 134.]
102 cord_individual_obj[indivial_i,:] = [7. 5. 132. 137.]
103 cord_individual_obj[indivial_i,:] = [8. 7. 121. 128.]
104 cord_individual_obj[indivial_i,:] = [9. 6. 140. 146.]
105 cord_individual_obj[indivial_i,:] = [10. 6. 102. 108.]
106 cord_individual_obj[indivial_i,:] = [11. 6. 121. 127.]
107 cord_individual_obj[indivial_i,:] = [12. 5. 105. 110.]
108 cord_individual_obj[indivial_i,:] = [13. 7. 155. 162.]
109 cord_individual_obj[indivial_i,:] = [14. 6. 56. 62.]
110 cord_individual_obj[indivial_i,:] = [15. 6. 108. 114.]
111 cord_individual_obj[indivial_i,:] = [16. 8. 185. 193.]
112 cord_individual_obj[indivial_i,:] = [17. 7. 164. 171.]
113 cord_individual_obj[indivial_i,:] = [18. 6. 96. 102.]
114 cord_individual_obj[indivial_i,:] = [19. 10. 181. 191.]
115 cord_individual_obj[indivial_i,:] = [20. 6. 85. 91.]
116 cord_individual_obj[indivial_i,:] = [21. 6. 137. 143.]
117 cord_individual_obj[indivial_i,:] = [22. 8. 194. 202.]
118 cord_individual_obj[indivial_i,:] = [23. 6. 119. 125.]
119 cord_individual_obj[indivial_i,:] = [24. 6. 130. 136.]
120
121 min(cord_individual_obj[:,3]) = 62.0
122 historl_G_best_iter[iter, 3] = 62.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [0. 7. 162. 169.]
127 cord_individual_obj[indivial_i,:] = [1. 7. 100. 107.]
128 cord_individual_obj[indivial_i,:] = [2. 6. 99. 105.]
129 cord_individual_obj[indivial_i,:] = [3. 5. 123. 128.]
130 cord_individual_obj[indivial_i,:] = [4. 6. 108. 114.]
131 cord_individual_obj[indivial_i,:] = [5. 6. 108. 114.]
132 cord_individual_obj[indivial_i,:] = [6. 6. 109. 115.]
133 cord_individual_obj[indivial_i,:] = [7. 5. 154. 159.]
134 cord_individual_obj[indivial_i,:] = [8. 9. 167. 176.]
135 cord_individual_obj[indivial_i,:] = [9. 5. 135. 140.]
136 cord_individual_obj[indivial_i,:] = [10. 8. 147. 155.]
137 cord_individual_obj[indivial_i,:] = [11. 6. 90. 96.]
138 cord_individual_obj[indivial_i,:] = [12. 6. 135. 141.]
139 cord_individual_obj[indivial_i,:] = [13. 5. 174. 179.]
140 cord_individual_obj[indivial_i,:] = [14. 8. 168. 176.]
141 cord_individual_obj[indivial_i,:] = [15. 7. 120. 127.]
142 cord_individual_obj[indivial_i,:] = [16. 6. 191. 197.]
143 cord_individual_obj[indivial_i,:] = [17. 7. 145. 152.]
144 cord_individual_obj[indivial_i,:] = [18. 5. 148. 153.]
145 cord_individual_obj[indivial_i,:] = [19. 6. 102. 108.]
146 cord_individual_obj[indivial_i,:] = [20. 5. 95. 100.]
147 cord_individual_obj[indivial_i,:] = [21. 6. 92. 98.]
148 cord_individual_obj[indivial_i,:] = [22. 6. 56. 62.]
149 cord_individual_obj[indivial_i,:] = [23. 8. 168. 176.]
150 cord_individual_obj[indivial_i,:] = [24. 6. 124. 130.]
151
152 min(cord_individual_obj[:,3]) = 62.0
153 historl_G_best_iter[iter, 3] = 62.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [0. 6. 140. 146.]
158 cord_individual_obj[indivial_i,:] = [1. 6. 123. 129.]
159 cord_individual_obj[indivial_i,:] = [2. 6. 102. 108.]
160 cord_individual_obj[indivial_i,:] = [3. 9. 163. 172.]
161 cord_individual_obj[indivial_i,:] = [4. 6. 132. 138.]
162 cord_individual_obj[indivial_i,:] = [5. 7. 179. 186.]
163 cord_individual_obj[indivial_i,:] = [6. 6. 211. 217.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 7. 165. 172.]
165 cord_individual_obj[indivial_i,:] = [ 8. 6. 114. 120.]
166 cord_individual_obj[indivial_i,:] = [ 9. 7. 124. 131.]
167 cord_individual_obj[indivial_i,:] = [10. 6. 147. 153.]
168 cord_individual_obj[indivial_i,:] = [11. 6. 101. 107.]
169 cord_individual_obj[indivial_i,:] = [12. 5. 122. 127.]
170 cord_individual_obj[indivial_i,:] = [13. 7. 125. 132.]
171 cord_individual_obj[indivial_i,:] = [14. 8. 77. 85.]
172 cord_individual_obj[indivial_i,:] = [15. 6. 72. 78.]
173 cord_individual_obj[indivial_i,:] = [16. 6. 56. 62.]
174 cord_individual_obj[indivial_i,:] = [17. 7. 175. 182.]
175 cord_individual_obj[indivial_i,:] = [18. 6. 104. 110.]
176 cord_individual_obj[indivial_i,:] = [19. 6. 151. 157.]
177 cord_individual_obj[indivial_i,:] = [20. 6. 110. 116.]
178 cord_individual_obj[indivial_i,:] = [21. 5. 177. 182.]
179 cord_individual_obj[indivial_i,:] = [22. 8. 109. 117.]
180 cord_individual_obj[indivial_i,:] = [23. 7. 161. 168.]
181 cord_individual_obj[indivial_i,:] = [24. 6. 128. 134.]
182
183 min(cord_individual_obj[:,3]) = 62.0
184 historl_G_best_iter[iter,3] = 62.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 7. 103. 110.]
189 cord_individual_obj[indivial_i,:] = [ 1. 6. 159. 165.]
190 cord_individual_obj[indivial_i,:] = [ 2. 6. 66. 72.]
191 cord_individual_obj[indivial_i,:] = [ 3. 7. 147. 154.]
192 cord_individual_obj[indivial_i,:] = [ 4. 6. 96. 102.]
193 cord_individual_obj[indivial_i,:] = [ 5. 7. 135. 142.]
194 cord_individual_obj[indivial_i,:] = [ 6. 6. 56. 62.]
195 cord_individual_obj[indivial_i,:] = [ 7. 8. 133. 141.]
196 cord_individual_obj[indivial_i,:] = [ 8. 5. 173. 178.]
197 cord_individual_obj[indivial_i,:] = [ 9. 7. 128. 135.]
198 cord_individual_obj[indivial_i,:] = [10. 6. 94. 100.]
199 cord_individual_obj[indivial_i,:] = [11. 7. 162. 169.]
200 cord_individual_obj[indivial_i,:] = [12. 7. 90. 97.]
201 cord_individual_obj[indivial_i,:] = [13. 6. 122. 128.]
202 cord_individual_obj[indivial_i,:] = [14. 6. 85. 91.]
203 cord_individual_obj[indivial_i,:] = [15. 6. 145. 151.]
204 cord_individual_obj[indivial_i,:] = [16. 5. 157. 162.]
205 cord_individual_obj[indivial_i,:] = [17. 7. 139. 146.]
206 cord_individual_obj[indivial_i,:] = [18. 7. 115. 122.]
207 cord_individual_obj[indivial_i,:] = [19. 5. 154. 159.]
208 cord_individual_obj[indivial_i,:] = [20. 6. 170. 176.]
209 cord_individual_obj[indivial_i,:] = [21. 5. 144. 149.]
210 cord_individual_obj[indivial_i,:] = [22. 6. 164. 170.]
211 cord_individual_obj[indivial_i,:] = [23. 6. 111. 117.]
212 cord_individual_obj[indivial_i,:] = [24. 7. 165. 172.]
213
214 min(cord_individual_obj[:,3]) = 62.0
215 historl_G_best_iter[iter,3] = 62.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 5. 171. 176.]
220 cord_individual_obj[indivial_i,:] = [ 1. 6. 198. 204.]
221 cord_individual_obj[indivial_i,:] = [ 2. 6. 124. 130.]
222 cord_individual_obj[indivial_i,:] = [ 3. 6. 177. 183.]
223 cord_individual_obj[indivial_i,:] = [ 4. 6. 121. 127.]
224 cord_individual_obj[indivial_i,:] = [ 5. 7. 156. 163.]
225 cord_individual_obj[indivial_i,:] = [ 6. 6. 130. 136.]
226 cord_individual_obj[indivial_i,:] = [ 7. 6. 186. 192.]
227 cord_individual_obj[indivial_i,:] = [ 8. 6. 56. 62.]
228 cord_individual_obj[indivial_i,:] = [ 9. 6. 166. 172.]
229 cord_individual_obj[indivial_i,:] = [10. 5. 164. 169.]
230 cord_individual_obj[indivial_i,:] = [11. 6. 207. 213.]
231 cord_individual_obj[indivial_i,:] = [12. 6. 171. 177.]
232 cord_individual_obj[indivial_i,:] = [13. 7. 93. 100.]
233 cord_individual_obj[indivial_i,:] = [14. 7. 143. 150.]
234 cord_individual_obj[indivial_i,:] = [15. 6. 100. 106.]
235 cord_individual_obj[indivial_i,:] = [16. 8. 88. 96.]
236 cord_individual_obj[indivial_i,:] = [17. 6. 163. 169.]
237 cord_individual_obj[indivial_i,:] = [18. 8. 146. 154.]
238 cord_individual_obj[indivial_i,:] = [19. 6. 133. 139.]
239 cord_individual_obj[indivial_i,:] = [20. 6. 146. 152.]
240 cord_individual_obj[indivial_i,:] = [21. 6. 139. 145.]
241 cord_individual_obj[indivial_i,:] = [22. 7. 114. 121.]
242 cord_individual_obj[indivial_i,:] = [23. 6. 177. 183.]
243 cord_individual_obj[indivial_i,:] = [24. 5. 144. 149.]
244
245 min(cord_individual_obj[:,3]) = 62.0
246 historl_G_best_iter[iter,3] = 62.0
247 Begin iteration:

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```

248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0. 6. 170. 176.]
251 cord_individual_obj[indivial_i, :] = [ 1. 8. 79. 87.]
252 cord_individual_obj[indivial_i, :] = [ 2. 7. 126. 133.]
253 cord_individual_obj[indivial_i, :] = [ 3. 5. 148. 153.]
254 cord_individual_obj[indivial_i, :] = [ 4. 7. 96. 103.]
255 cord_individual_obj[indivial_i, :] = [ 5. 7. 124. 131.]
256 cord_individual_obj[indivial_i, :] = [ 6. 7. 154. 161.]
257 cord_individual_obj[indivial_i, :] = [ 7. 6. 173. 179.]
258 cord_individual_obj[indivial_i, :] = [ 8. 6. 172. 178.]
259 cord_individual_obj[indivial_i, :] = [ 9. 7. 156. 163.]
260 cord_individual_obj[indivial_i, :] = [ 10. 7. 112. 119.]
261 cord_individual_obj[indivial_i, :] = [ 11. 6. 56. 62.]
262 cord_individual_obj[indivial_i, :] = [ 12. 6. 110. 116.]
263 cord_individual_obj[indivial_i, :] = [ 13. 5. 154. 159.]
264 cord_individual_obj[indivial_i, :] = [ 14. 6. 90. 96.]
265 cord_individual_obj[indivial_i, :] = [ 15. 5. 158. 163.]
266 cord_individual_obj[indivial_i, :] = [ 16. 5. 158. 163.]
267 cord_individual_obj[indivial_i, :] = [ 17. 8. 155. 163.]
268 cord_individual_obj[indivial_i, :] = [ 18. 7. 100. 107.]
269 cord_individual_obj[indivial_i, :] = [ 19. 5. 117. 122.]
270 cord_individual_obj[indivial_i, :] = [ 20. 6. 63. 69.]
271 cord_individual_obj[indivial_i, :] = [ 21. 6. 140. 146.]
272 cord_individual_obj[indivial_i, :] = [ 22. 5. 111. 116.]
273 cord_individual_obj[indivial_i, :] = [ 23. 6. 90. 96.]
274 cord_individual_obj[indivial_i, :] = [ 24. 7. 100. 107.]
275

276 min(cord_individual_obj[:, 3]) = 62.0
277 historl_G_best_iter[iter, 3] = 62.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0. 9. 157. 166.]
282 cord_individual_obj[indivial_i, :] = [ 1. 6. 141. 147.]
283 cord_individual_obj[indivial_i, :] = [ 2. 6. 160. 166.]
284 cord_individual_obj[indivial_i, :] = [ 3. 7. 136. 143.]
285 cord_individual_obj[indivial_i, :] = [ 4. 7. 136. 143.]
286 cord_individual_obj[indivial_i, :] = [ 5. 7. 122. 129.]
287 cord_individual_obj[indivial_i, :] = [ 6. 6. 134. 140.]
288 cord_individual_obj[indivial_i, :] = [ 7. 6. 56. 62.]
289 cord_individual_obj[indivial_i, :] = [ 8. 7. 172. 179.]
290 cord_individual_obj[indivial_i, :] = [ 9. 6. 133. 139.]
291 cord_individual_obj[indivial_i, :] = [ 10. 6. 94. 100.]
292 cord_individual_obj[indivial_i, :] = [ 11. 6. 73. 79.]
293 cord_individual_obj[indivial_i, :] = [ 12. 6. 89. 95.]
294 cord_individual_obj[indivial_i, :] = [ 13. 5. 96. 101.]
295 cord_individual_obj[indivial_i, :] = [ 14. 5. 83. 88.]
296 cord_individual_obj[indivial_i, :] = [ 15. 6. 88. 94.]
297 cord_individual_obj[indivial_i, :] = [ 16. 8. 150. 158.]
298 cord_individual_obj[indivial_i, :] = [ 17. 8. 142. 150.]
299 cord_individual_obj[indivial_i, :] = [ 18. 7. 117. 124.]
300 cord_individual_obj[indivial_i, :] = [ 19. 8. 120. 128.]
301 cord_individual_obj[indivial_i, :] = [ 20. 7. 150. 157.]
302 cord_individual_obj[indivial_i, :] = [ 21. 6. 132. 138.]
303 cord_individual_obj[indivial_i, :] = [ 22. 6. 128. 134.]
304 cord_individual_obj[indivial_i, :] = [ 23. 6. 119. 125.]
305 cord_individual_obj[indivial_i, :] = [ 24. 6. 127. 133.]
306

307 min(cord_individual_obj[:, 3]) = 62.0
308 historl_G_best_iter[iter, 3] = 62.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0. 8. 149. 157.]
313 cord_individual_obj[indivial_i, :] = [ 1. 6. 107. 113.]
314 cord_individual_obj[indivial_i, :] = [ 2. 5. 136. 141.]
315 cord_individual_obj[indivial_i, :] = [ 3. 6. 117. 123.]
316 cord_individual_obj[indivial_i, :] = [ 4. 6. 119. 125.]
317 cord_individual_obj[indivial_i, :] = [ 5. 6. 128. 134.]
318 cord_individual_obj[indivial_i, :] = [ 6. 5. 112. 117.]
319 cord_individual_obj[indivial_i, :] = [ 7. 7. 126. 133.]
320 cord_individual_obj[indivial_i, :] = [ 8. 6. 56. 62.]
321 cord_individual_obj[indivial_i, :] = [ 9. 7. 158. 165.]
322 cord_individual_obj[indivial_i, :] = [ 10. 7. 117. 124.]
323 cord_individual_obj[indivial_i, :] = [ 11. 7. 216. 223.]
324 cord_individual_obj[indivial_i, :] = [ 12. 8. 112. 120.]
325 cord_individual_obj[indivial_i, :] = [ 13. 6. 129. 135.]
326 cord_individual_obj[indivial_i, :] = [ 14. 6. 145. 151.]
327 cord_individual_obj[indivial_i, :] = [ 15. 5. 125. 130.]
328 cord_individual_obj[indivial_i, :] = [ 16. 8. 160. 168.]
329 cord_individual_obj[indivial_i, :] = [ 17. 8. 122. 130.]
330 cord_individual_obj[indivial_i, :] = [ 18. 6. 157. 163.]
331 cord_individual_obj[indivial_i, :] = [ 19. 6. 133. 139.]

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unknown

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332     cord_individual_obj[indivial_i,:] = [ 20. 7. 116. 123.]
333     cord_individual_obj[indivial_i,:] = [ 21. 9. 146. 155.]
334     cord_individual_obj[indivial_i,:] = [ 22. 7. 131. 138.]
335     cord_individual_obj[indivial_i,:] = [ 23. 5. 153. 158.]
336     cord_individual_obj[indivial_i,:] = [ 24. 7. 106. 113.]
337
338 min(cord_individual_obj[:,3]) = 62.0
339 historl_G_best_iter[iter,3] = 62.0
340 Begin iteration:
341
342 iter = 10
343     cord_individual_obj[indivial_i,:] = [ 0. 7. 111. 118.]
344     cord_individual_obj[indivial_i,:] = [ 1. 9. 170. 179.]
345     cord_individual_obj[indivial_i,:] = [ 2. 8. 73. 81.]
346     cord_individual_obj[indivial_i,:] = [ 3. 6. 132. 138.]
347     cord_individual_obj[indivial_i,:] = [ 4. 6. 81. 87.]
348     cord_individual_obj[indivial_i,:] = [ 5. 7. 130. 137.]
349     cord_individual_obj[indivial_i,:] = [ 6. 6. 177. 183.]
350     cord_individual_obj[indivial_i,:] = [ 7. 6. 183. 189.]
351     cord_individual_obj[indivial_i,:] = [ 8. 5. 171. 176.]
352     cord_individual_obj[indivial_i,:] = [ 9. 7. 137. 144.]
353     cord_individual_obj[indivial_i,:] = [ 10. 6. 158. 164.]
354     cord_individual_obj[indivial_i,:] = [ 11. 6. 56. 62.]
355     cord_individual_obj[indivial_i,:] = [ 12. 7. 160. 167.]
356     cord_individual_obj[indivial_i,:] = [ 13. 6. 113. 119.]
357     cord_individual_obj[indivial_i,:] = [ 14. 8. 116. 124.]
358     cord_individual_obj[indivial_i,:] = [ 15. 8. 158. 166.]
359     cord_individual_obj[indivial_i,:] = [ 16. 6. 119. 125.]
360     cord_individual_obj[indivial_i,:] = [ 17. 7. 177. 184.]
361     cord_individual_obj[indivial_i,:] = [ 18. 6. 123. 129.]
362     cord_individual_obj[indivial_i,:] = [ 19. 7. 172. 179.]
363     cord_individual_obj[indivial_i,:] = [ 20. 10. 86. 96.]
364     cord_individual_obj[indivial_i,:] = [ 21. 7. 145. 152.]
365     cord_individual_obj[indivial_i,:] = [ 22. 9. 123. 132.]
366     cord_individual_obj[indivial_i,:] = [ 23. 7. 106. 113.]
367     cord_individual_obj[indivial_i,:] = [ 24. 6. 136. 142.]
368
369 min(cord_individual_obj[:,3]) = 62.0
370 historl_G_best_iter[iter,3] = 62.0
371 Begin iteration:
372
373 iter = 11
374     cord_individual_obj[indivial_i,:] = [ 0. 6. 145. 151.]
375     cord_individual_obj[indivial_i,:] = [ 1. 7. 148. 155.]
376     cord_individual_obj[indivial_i,:] = [ 2. 7. 157. 164.]
377     cord_individual_obj[indivial_i,:] = [ 3. 9. 169. 178.]
378     cord_individual_obj[indivial_i,:] = [ 4. 6. 139. 145.]
379     cord_individual_obj[indivial_i,:] = [ 5. 6. 191. 197.]
380     cord_individual_obj[indivial_i,:] = [ 6. 6. 134. 140.]
381     cord_individual_obj[indivial_i,:] = [ 7. 6. 56. 62.]
382     cord_individual_obj[indivial_i,:] = [ 8. 7. 64. 71.]
383     cord_individual_obj[indivial_i,:] = [ 9. 6. 150. 156.]
384     cord_individual_obj[indivial_i,:] = [ 10. 6. 106. 112.]
385     cord_individual_obj[indivial_i,:] = [ 11. 6. 73. 79.]
386     cord_individual_obj[indivial_i,:] = [ 12. 8. 167. 175.]
387     cord_individual_obj[indivial_i,:] = [ 13. 5. 191. 196.]
388     cord_individual_obj[indivial_i,:] = [ 14. 6. 148. 154.]
389     cord_individual_obj[indivial_i,:] = [ 15. 6. 103. 109.]
390     cord_individual_obj[indivial_i,:] = [ 16. 8. 140. 148.]
391     cord_individual_obj[indivial_i,:] = [ 17. 6. 143. 149.]
392     cord_individual_obj[indivial_i,:] = [ 18. 7. 164. 171.]
393     cord_individual_obj[indivial_i,:] = [ 19. 7. 51. 58.]
394     cord_individual_obj[indivial_i,:] = [ 20. 6. 151. 157.]
395     cord_individual_obj[indivial_i,:] = [ 21. 7. 125. 132.]
396     cord_individual_obj[indivial_i,:] = [ 22. 6. 113. 119.]
397     cord_individual_obj[indivial_i,:] = [ 23. 6. 167. 173.]
398     cord_individual_obj[indivial_i,:] = [ 24. 6. 125. 131.]
399
400 min(cord_individual_obj[:,3]) = 58.0
401 historl_G_best_iter[iter,3] = 58.0
402 Begin iteration:
403
404 iter = 12
405     cord_individual_obj[indivial_i,:] = [ 0. 8. 130. 138.]
406     cord_individual_obj[indivial_i,:] = [ 1. 7. 88. 95.]
407     cord_individual_obj[indivial_i,:] = [ 2. 6. 214. 220.]
408     cord_individual_obj[indivial_i,:] = [ 3. 7. 69. 76.]
409     cord_individual_obj[indivial_i,:] = [ 4. 7. 171. 178.]
410     cord_individual_obj[indivial_i,:] = [ 5. 7. 51. 58.]
411     cord_individual_obj[indivial_i,:] = [ 6. 6. 123. 129.]
412     cord_individual_obj[indivial_i,:] = [ 7. 6. 141. 147.]
413     cord_individual_obj[indivial_i,:] = [ 8. 7. 132. 139.]
414     cord_individual_obj[indivial_i,:] = [ 9. 7. 73. 80.]
415     cord_individual_obj[indivial_i,:] = [ 10. 7. 66. 73.]
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416 cord_individual_obj[indivial_i,:] = [ 11. 6. 115. 121.]
417 cord_individual_obj[indivial_i,:] = [ 12. 6. 107. 113.]
418 cord_individual_obj[indivial_i,:] = [ 13. 7. 121. 128.]
419 cord_individual_obj[indivial_i,:] = [ 14. 7. 108. 115.]
420 cord_individual_obj[indivial_i,:] = [ 15. 7. 257. 264.]
421 cord_individual_obj[indivial_i,:] = [ 16. 6. 134. 140.]
422 cord_individual_obj[indivial_i,:] = [ 17. 7. 158. 165.]
423 cord_individual_obj[indivial_i,:] = [ 18. 6. 145. 151.]
424 cord_individual_obj[indivial_i,:] = [ 19. 8. 264. 272.]
425 cord_individual_obj[indivial_i,:] = [ 20. 6. 135. 141.]
426 cord_individual_obj[indivial_i,:] = [ 21. 7. 224. 231.]
427 cord_individual_obj[indivial_i,:] = [ 22. 6. 90. 96.]
428 cord_individual_obj[indivial_i,:] = [ 23. 6. 104. 110.]
429 cord_individual_obj[indivial_i,:] = [ 24. 6. 176. 182.]
430
431 min(cord_individual_obj[:,3]) = 58.0
432 histol_G_best_iter[iter,3] = 58.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 7. 85. 92.]
437 cord_individual_obj[indivial_i,:] = [ 1. 6. 184. 190.]
438 cord_individual_obj[indivial_i,:] = [ 2. 6. 150. 156.]
439 cord_individual_obj[indivial_i,:] = [ 3. 6. 129. 135.]
440 cord_individual_obj[indivial_i,:] = [ 4. 6. 161. 167.]
441 cord_individual_obj[indivial_i,:] = [ 5. 6. 151. 157.]
442 cord_individual_obj[indivial_i,:] = [ 6. 7. 81. 88.]
443 cord_individual_obj[indivial_i,:] = [ 7. 5. 224. 229.]
444 cord_individual_obj[indivial_i,:] = [ 8. 7. 154. 161.]
445 cord_individual_obj[indivial_i,:] = [ 9. 6. 104. 110.]
446 cord_individual_obj[indivial_i,:] = [ 10. 6. 141. 147.]
447 cord_individual_obj[indivial_i,:] = [ 11. 6. 168. 174.]
448 cord_individual_obj[indivial_i,:] = [ 12. 6. 161. 167.]
449 cord_individual_obj[indivial_i,:] = [ 13. 7. 132. 139.]
450 cord_individual_obj[indivial_i,:] = [ 14. 7. 125. 132.]
451 cord_individual_obj[indivial_i,:] = [ 15. 7. 123. 130.]
452 cord_individual_obj[indivial_i,:] = [ 16. 7. 71. 78.]
453 cord_individual_obj[indivial_i,:] = [ 17. 6. 79. 85.]
454 cord_individual_obj[indivial_i,:] = [ 18. 6. 130. 136.]
455 cord_individual_obj[indivial_i,:] = [ 19. 7. 51. 58.]
456 cord_individual_obj[indivial_i,:] = [ 20. 8. 87. 95.]
457 cord_individual_obj[indivial_i,:] = [ 21. 6. 123. 129.]
458 cord_individual_obj[indivial_i,:] = [ 22. 7. 92. 99.]
459 cord_individual_obj[indivial_i,:] = [ 23. 5. 79. 84.]
460 cord_individual_obj[indivial_i,:] = [ 24. 6. 124. 130.]
461
462 min(cord_individual_obj[:,3]) = 58.0
463 histol_G_best_iter[iter,3] = 58.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 6. 162. 168.]
468 cord_individual_obj[indivial_i,:] = [ 1. 6. 83. 89.]
469 cord_individual_obj[indivial_i,:] = [ 2. 6. 154. 160.]
470 cord_individual_obj[indivial_i,:] = [ 3. 7. 144. 151.]
471 cord_individual_obj[indivial_i,:] = [ 4. 7. 95. 102.]
472 cord_individual_obj[indivial_i,:] = [ 5. 6. 138. 144.]
473 cord_individual_obj[indivial_i,:] = [ 6. 5. 188. 193.]
474 cord_individual_obj[indivial_i,:] = [ 7. 7. 51. 58.]
475 cord_individual_obj[indivial_i,:] = [ 8. 8. 161. 169.]
476 cord_individual_obj[indivial_i,:] = [ 9. 8. 84. 92.]
477 cord_individual_obj[indivial_i,:] = [ 10. 6. 108. 114.]
478 cord_individual_obj[indivial_i,:] = [ 11. 5. 128. 133.]
479 cord_individual_obj[indivial_i,:] = [ 12. 6. 147. 153.]
480 cord_individual_obj[indivial_i,:] = [ 13. 6. 81. 87.]
481 cord_individual_obj[indivial_i,:] = [ 14. 7. 80. 87.]
482 cord_individual_obj[indivial_i,:] = [ 15. 6. 129. 135.]
483 cord_individual_obj[indivial_i,:] = [ 16. 8. 97. 105.]
484 cord_individual_obj[indivial_i,:] = [ 17. 8. 93. 101.]
485 cord_individual_obj[indivial_i,:] = [ 18. 6. 129. 135.]
486 cord_individual_obj[indivial_i,:] = [ 19. 6. 65. 71.]
487 cord_individual_obj[indivial_i,:] = [ 20. 8. 84. 92.]
488 cord_individual_obj[indivial_i,:] = [ 21. 6. 176. 182.]
489 cord_individual_obj[indivial_i,:] = [ 22. 7. 133. 140.]
490 cord_individual_obj[indivial_i,:] = [ 23. 6. 213. 219.]
491 cord_individual_obj[indivial_i,:] = [ 24. 7. 101. 108.]
492
493 min(cord_individual_obj[:,3]) = 58.0
494 histol_G_best_iter[iter,3] = 58.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 7. 193. 200.]
499 cord_individual_obj[indivial_i,:] = [ 1. 6. 104. 110.]

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500 cord_individual_obj[indivial_i, :] = [ 2. 7. 115. 122.]
501 cord_individual_obj[indivial_i, :] = [ 3. 6. 130. 136.]
502 cord_individual_obj[indivial_i, :] = [ 4. 7. 91. 98.]
503 cord_individual_obj[indivial_i, :] = [ 5. 6. 157. 163.]
504 cord_individual_obj[indivial_i, :] = [ 6. 5. 123. 128.]
505 cord_individual_obj[indivial_i, :] = [ 7. 6. 219. 225.]
506 cord_individual_obj[indivial_i, :] = [ 8. 8. 94. 102.]
507 cord_individual_obj[indivial_i, :] = [ 9. 8. 97. 105.]
508 cord_individual_obj[indivial_i, :] = [10. 7. 78. 85.]
509 cord_individual_obj[indivial_i, :] = [11. 6. 214. 220.]
510 cord_individual_obj[indivial_i, :] = [12. 7. 151. 158.]
511 cord_individual_obj[indivial_i, :] = [13. 6. 79. 85.]
512 cord_individual_obj[indivial_i, :] = [14. 7. 205. 212.]
513 cord_individual_obj[indivial_i, :] = [15. 7. 95. 102.]
514 cord_individual_obj[indivial_i, :] = [16. 6. 66. 72.]
515 cord_individual_obj[indivial_i, :] = [17. 7. 110. 117.]
516 cord_individual_obj[indivial_i, :] = [18. 6. 121. 127.]
517 cord_individual_obj[indivial_i, :] = [19. 6. 63. 69.]
518 cord_individual_obj[indivial_i, :] = [20. 5. 95. 100.]
519 cord_individual_obj[indivial_i, :] = [21. 6. 121. 127.]
520 cord_individual_obj[indivial_i, :] = [22. 7. 106. 113.]
521 cord_individual_obj[indivial_i, :] = [23. 7. 51. 58.]
522 cord_individual_obj[indivial_i, :] = [24. 6. 106. 112.]
523
524 min(cord_individual_obj[:, 3]) = 58.0
525 histol_G_best_iter[iter, 3] = 58.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i, :] = [ 0. 6. 205. 211.]
530 cord_individual_obj[indivial_i, :] = [ 1. 7. 223. 230.]
531 cord_individual_obj[indivial_i, :] = [ 2. 6. 114. 120.]
532 cord_individual_obj[indivial_i, :] = [ 3. 6. 108. 114.]
533 cord_individual_obj[indivial_i, :] = [ 4. 7. 88. 95.]
534 cord_individual_obj[indivial_i, :] = [ 5. 7. 158. 165.]
535 cord_individual_obj[indivial_i, :] = [ 6. 6. 184. 190.]
536 cord_individual_obj[indivial_i, :] = [ 7. 7. 51. 58.]
537 cord_individual_obj[indivial_i, :] = [ 8. 7. 187. 194.]
538 cord_individual_obj[indivial_i, :] = [ 9. 6. 202. 208.]
539 cord_individual_obj[indivial_i, :] = [10. 5. 95. 100.]
540 cord_individual_obj[indivial_i, :] = [11. 6. 124. 130.]
541 cord_individual_obj[indivial_i, :] = [12. 7. 157. 164.]
542 cord_individual_obj[indivial_i, :] = [13. 6. 72. 78.]
543 cord_individual_obj[indivial_i, :] = [14. 6. 155. 161.]
544 cord_individual_obj[indivial_i, :] = [15. 5. 104. 109.]
545 cord_individual_obj[indivial_i, :] = [16. 6. 65. 71.]
546 cord_individual_obj[indivial_i, :] = [17. 8. 91. 99.]
547 cord_individual_obj[indivial_i, :] = [18. 6. 108. 114.]
548 cord_individual_obj[indivial_i, :] = [19. 6. 73. 79.]
549 cord_individual_obj[indivial_i, :] = [20. 8. 90. 98.]
550 cord_individual_obj[indivial_i, :] = [21. 7. 139. 146.]
551 cord_individual_obj[indivial_i, :] = [22. 6. 136. 142.]
552 cord_individual_obj[indivial_i, :] = [23. 7. 101. 108.]
553 cord_individual_obj[indivial_i, :] = [24. 7. 114. 121.]
554
555 min(cord_individual_obj[:, 3]) = 58.0
556 histol_G_best_iter[iter, 3] = 58.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i, :] = [ 0. 6. 92. 98.]
561 cord_individual_obj[indivial_i, :] = [ 1. 7. 51. 58.]
562 cord_individual_obj[indivial_i, :] = [ 2. 6. 115. 121.]
563 cord_individual_obj[indivial_i, :] = [ 3. 6. 144. 150.]
564 cord_individual_obj[indivial_i, :] = [ 4. 6. 80. 86.]
565 cord_individual_obj[indivial_i, :] = [ 5. 6. 140. 146.]
566 cord_individual_obj[indivial_i, :] = [ 6. 7. 153. 160.]
567 cord_individual_obj[indivial_i, :] = [ 7. 5. 216. 221.]
568 cord_individual_obj[indivial_i, :] = [ 8. 7. 141. 148.]
569 cord_individual_obj[indivial_i, :] = [ 9. 6. 205. 211.]
570 cord_individual_obj[indivial_i, :] = [10. 6. 111. 117.]
571 cord_individual_obj[indivial_i, :] = [11. 6. 167. 173.]
572 cord_individual_obj[indivial_i, :] = [12. 7. 147. 154.]
573 cord_individual_obj[indivial_i, :] = [13. 6. 98. 104.]
574 cord_individual_obj[indivial_i, :] = [14. 7. 80. 87.]
575 cord_individual_obj[indivial_i, :] = [15. 6. 107. 113.]
576 cord_individual_obj[indivial_i, :] = [16. 6. 70. 76.]
577 cord_individual_obj[indivial_i, :] = [17. 7. 95. 102.]
578 cord_individual_obj[indivial_i, :] = [18. 6. 116. 122.]
579 cord_individual_obj[indivial_i, :] = [19. 7. 139. 146.]
580 cord_individual_obj[indivial_i, :] = [20. 5. 86. 91.]
581 cord_individual_obj[indivial_i, :] = [21. 6. 214. 220.]
582 cord_individual_obj[indivial_i, :] = [22. 7. 75. 82.]
583 cord_individual_obj[indivial_i, :] = [23. 5. 127. 132.]

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unknown

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584     cord_individual_obj[indivial_i, :] = [ 24.  7. 132. 139.]
585
586     min(cord_individual_obj[:, 3]) = 58.0
587     historl_G_best_iter[iter, 3] = 58.0
588 Begin iteration:
589
590 iter = 18
591     cord_individual_obj[indivial_i, :] = [ 0.  6. 154. 160.]
592     cord_individual_obj[indivial_i, :] = [ 1.  8. 241. 249.]
593     cord_individual_obj[indivial_i, :] = [ 2.  6. 159. 165.]
594     cord_individual_obj[indivial_i, :] = [ 3.  6. 143. 149.]
595     cord_individual_obj[indivial_i, :] = [ 4.  6. 140. 146.]
596     cord_individual_obj[indivial_i, :] = [ 5.  6. 154. 160.]
597     cord_individual_obj[indivial_i, :] = [ 6.  8. 174. 182.]
598     cord_individual_obj[indivial_i, :] = [ 7.  7. 51. 58.]
599     cord_individual_obj[indivial_i, :] = [ 8.  7. 118. 125.]
600     cord_individual_obj[indivial_i, :] = [ 9.  8. 204. 212.]
601     cord_individual_obj[indivial_i, :] = [ 10. 7. 151. 158.]
602     cord_individual_obj[indivial_i, :] = [ 11. 5. 111. 116.]
603     cord_individual_obj[indivial_i, :] = [ 12. 6. 149. 155.]
604     cord_individual_obj[indivial_i, :] = [ 13. 7. 120. 127.]
605     cord_individual_obj[indivial_i, :] = [ 14. 7. 184. 191.]
606     cord_individual_obj[indivial_i, :] = [ 15. 5. 92. 97.]
607     cord_individual_obj[indivial_i, :] = [ 16. 6. 65. 71.]
608     cord_individual_obj[indivial_i, :] = [ 17. 8. 96. 104.]
609     cord_individual_obj[indivial_i, :] = [ 18. 6. 146. 152.]
610     cord_individual_obj[indivial_i, :] = [ 19. 6. 214. 220.]
611     cord_individual_obj[indivial_i, :] = [ 20. 8. 93. 101.]
612     cord_individual_obj[indivial_i, :] = [ 21. 5. 131. 136.]
613     cord_individual_obj[indivial_i, :] = [ 22. 6. 86. 92.]
614     cord_individual_obj[indivial_i, :] = [ 23. 6. 151. 157.]
615     cord_individual_obj[indivial_i, :] = [ 24. 7. 114. 121.]
616
617     min(cord_individual_obj[:, 3]) = 58.0
618     historl_G_best_iter[iter, 3] = 58.0
619 Begin iteration:
620
621 iter = 19
622     cord_individual_obj[indivial_i, :] = [ 0.  6. 79. 85.]
623     cord_individual_obj[indivial_i, :] = [ 1.  7. 51. 58.]
624     cord_individual_obj[indivial_i, :] = [ 2.  6. 68. 74.]
625     cord_individual_obj[indivial_i, :] = [ 3.  7. 111. 118.]
626     cord_individual_obj[indivial_i, :] = [ 4.  7. 101. 108.]
627     cord_individual_obj[indivial_i, :] = [ 5.  7. 130. 137.]
628     cord_individual_obj[indivial_i, :] = [ 6.  7. 136. 143.]
629     cord_individual_obj[indivial_i, :] = [ 7.  6. 148. 154.]
630     cord_individual_obj[indivial_i, :] = [ 8.  8. 120. 128.]
631     cord_individual_obj[indivial_i, :] = [ 9.  6. 87. 93.]
632     cord_individual_obj[indivial_i, :] = [ 10. 6. 89. 95.]
633     cord_individual_obj[indivial_i, :] = [ 11. 5. 64. 69.]
634     cord_individual_obj[indivial_i, :] = [ 12. 6. 114. 120.]
635     cord_individual_obj[indivial_i, :] = [ 13. 6. 143. 149.]
636     cord_individual_obj[indivial_i, :] = [ 14. 7. 77. 84.]
637     cord_individual_obj[indivial_i, :] = [ 15. 6. 267. 273.]
638     cord_individual_obj[indivial_i, :] = [ 16. 7. 138. 145.]
639     cord_individual_obj[indivial_i, :] = [ 17. 6. 86. 92.]
640     cord_individual_obj[indivial_i, :] = [ 18. 6. 129. 135.]
641     cord_individual_obj[indivial_i, :] = [ 19. 5. 87. 92.]
642     cord_individual_obj[indivial_i, :] = [ 20. 5. 82. 87.]
643     cord_individual_obj[indivial_i, :] = [ 21. 6. 174. 180.]
644     cord_individual_obj[indivial_i, :] = [ 22. 7. 106. 113.]
645     cord_individual_obj[indivial_i, :] = [ 23. 5. 126. 131.]
646     cord_individual_obj[indivial_i, :] = [ 24. 6. 146. 152.]
647
648     min(cord_individual_obj[:, 3]) = 58.0
649     historl_G_best_iter[iter, 3] = 58.0
650 Begin iteration:
651
652 iter = 20
653     cord_individual_obj[indivial_i, :] = [ 0.  6. 235. 241.]
654     cord_individual_obj[indivial_i, :] = [ 1.  6. 251. 257.]
655     cord_individual_obj[indivial_i, :] = [ 2.  8. 110. 118.]
656     cord_individual_obj[indivial_i, :] = [ 3.  6. 104. 110.]
657     cord_individual_obj[indivial_i, :] = [ 4.  5. 140. 145.]
658     cord_individual_obj[indivial_i, :] = [ 5.  6. 164. 170.]
659     cord_individual_obj[indivial_i, :] = [ 6.  6. 184. 190.]
660     cord_individual_obj[indivial_i, :] = [ 7.  6. 124. 130.]
661     cord_individual_obj[indivial_i, :] = [ 8.  7. 95. 102.]
662     cord_individual_obj[indivial_i, :] = [ 9.  7. 132. 139.]
663     cord_individual_obj[indivial_i, :] = [ 10. 5. 98. 103.]
664     cord_individual_obj[indivial_i, :] = [ 11. 7. 105. 112.]
665     cord_individual_obj[indivial_i, :] = [ 12. 7. 131. 138.]
666     cord_individual_obj[indivial_i, :] = [ 13. 6. 121. 127.]
667     cord_individual_obj[indivial_i, :] = [ 14. 7. 89. 96.]
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668 cord_individual_obj[indivial_i,:] = [15. 7. 51. 58.]
669 cord_individual_obj[indivial_i,:] = [16. 8. 78. 86.]
670 cord_individual_obj[indivial_i,:] = [17. 7. 180. 187.]
671 cord_individual_obj[indivial_i,:] = [18. 7. 132. 139.]
672 cord_individual_obj[indivial_i,:] = [19. 7. 117. 124.]
673 cord_individual_obj[indivial_i,:] = [20. 8. 76. 84.]
674 cord_individual_obj[indivial_i,:] = [21. 7. 174. 181.]
675 cord_individual_obj[indivial_i,:] = [22. 6. 125. 131.]
676 cord_individual_obj[indivial_i,:] = [23. 6. 229. 235.]
677 cord_individual_obj[indivial_i,:] = [24. 7. 86. 93.]
678
679 min(cord_individual_obj[:, 3]) = 58.0
680 historl_G_best_iter[iter, 3] = 58.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 161.0
689 Proportion_of_area = 0.14907407407407408
690 BEST_CHROM =
691 berth: [23.5 1.5 20.5 15. 16.5 4. 4. 23.5 9.5 6. 5. 12. 1.5 8.5
692 20.5]
693 time: [2. 4. 3. 0. 2. 5. 0. 5. 0. 3. 1. 2. 1. 1. 0.]
694 num_QC: [8. 3. 3. 3. 2. 2. 5. 2. 3. 6. 4. 3. 2. 3. 3.]
695 Objective function values and some other indicators:
696 Obj0 = 7.00          Obj1 = 51.00          Obj0 + Obj1 = 58.00
697 Total movement of crane: 10.00
698 Total waiting time in berth position: 29.00
699 Total index of q during berthing: 742.00
700 Specific arrangement for each vessel:
701 V_id: 0      li: 9.0      xi: 23.5      bow of i: 19.0      tail of i: 28.0      gama_i0: 2.0      gama_i1: 2
.0           gama_i1 + 1: 3.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 100.0      work
load_i: 100.0      work load gap_i: 0
702 V_id: 1      li: 3.0      xi: 1.5      bow of i: 0.0      tail of i: 3.0      gama_i0: 4.0      gama_i1: 4.0
.0           gama_i1 + 1: 5.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 60.0      work load_i:
60.0      work load gap_i: 0
703 V_id: 2      li: 3.0      xi: 20.5      bow of i: 19.0      tail of i: 22.0      gama_i0: 3.0      gama_i1: 4
.0           gama_i1 + 1: 5.0      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
704 V_id: 3      li: 8.0      xi: 15.0      bow of i: 11.0      tail of i: 19.0      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
705 V_id: 4      li: 5.0      xi: 16.5      bow of i: 14.0      tail of i: 19.0      gama_i0: 2.0      gama_i1: 5
.0           gama_i1 + 1: 6.0      gama_i1 - gama_i0: 3.0      duration_time_i: 4.0      demand_i: 140.0      work
load_i: 140.0      work load gap_i: 0
706 V_id: 5      li: 8.0      xi: 4.0      bow of i: 0.0      tail of i: 8.0      gama_i0: 5.0      gama_i1: 7.0
.0           gama_i1 + 1: 8.0      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
707 V_id: 6      li: 8.0      xi: 4.0      bow of i: 0.0      tail of i: 8.0      gama_i0: 0.0      gama_i1: 0.0
.0           gama_i1 + 1: 1.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 100.0      work load_i:
100.0      work load gap_i: 0
708 V_id: 7      li: 9.0      xi: 23.5      bow of i: 19.0      tail of i: 28.0      gama_i0: 5.0      gama_i1: 6
.0           gama_i1 + 1: 7.0      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
709 V_id: 8      li: 3.0      xi: 9.5      bow of i: 8.0      tail of i: 11.0      gama_i0: 0.0      gama_i1: 0
.0           gama_i1 + 1: 1.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 60.0      work load_i:
60.0      work load gap_i: 0
710 V_id: 9      li: 6.0      xi: 6.0      bow of i: 3.0      tail of i: 9.0      gama_i0: 3.0      gama_i1: 3.0
.0           gama_i1 + 1: 4.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 100.0      work load_i:
100.0      work load gap_i: 0
711 V_id: 10     li: 4.0      xi: 5.0      bow of i: 3.0      tail of i: 7.0      gama_i0: 1.0      gama_i1: 2.0
.0           gama_i1 + 1: 3.0      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
712 V_id: 11     li: 4.0      xi: 12.0      bow of i: 10.0      tail of i: 14.0      gama_i0: 2.0      gama_i1
.0           gama_i1 + 1: 4.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 120.0      work
load_i: 120.0      work load gap_i: 0
713 V_id: 12     li: 3.0      xi: 1.5      bow of i: 0.0      tail of i: 3.0      gama_i0: 1.0      gama_i1: 3.0
.0           gama_i1 + 1: 4.0      gama_i1 - gama_i0: 2.0      duration_time_i: 3.0      demand_i: 100.0      work load_i:
100.0      work load gap_i: 0
714 V_id: 13     li: 3.0      xi: 8.5      bow of i: 7.0      tail of i: 10.0      gama_i0: 1.0      gama_i1: 2
.0           gama_i1 + 1: 3.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 120.0      work
load_i: 120.0      work load gap_i: 0
715 V_id: 14     li: 3.0      xi: 20.5      bow of i: 19.0      tail of i: 22.0      gama_i0: 0.0      gama_i1
.0           gama_i1 + 1: 2.0      gama_i1 - gama_i0: 1.0      duration_time_i: 2.0      demand_i: 120.0      work
load_i: 120.0      work load gap_i: 0
716
717 Algorithm finished and the total CPU time: 454 s
718 End
719

```