

unknown

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80 cord_individual_obj[indivial_i, :] = [ 16. 12. 155. 167.]
81 cord_individual_obj[indivial_i, :] = [ 17. 12. 112. 124.]
82 cord_individual_obj[indivial_i, :] = [ 18. 13. 124. 137.]
83 cord_individual_obj[indivial_i, :] = [ 19. 10. 165. 175.]
84 cord_individual_obj[indivial_i, :] = [ 20. 11. 137. 148.]
85 cord_individual_obj[indivial_i, :] = [ 21. 10. 159. 169.]
86 cord_individual_obj[indivial_i, :] = [ 22. 10. 110. 120.]
87 cord_individual_obj[indivial_i, :] = [ 23. 11. 113. 124.]
88 cord_individual_obj[indivial_i, :] = [ 24. 13. 132. 145.]
89
90 min(cord_individual_obj[:, 3]) = 103.0
91 historl_G_best_iter[iter, 3] = 103.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i, :] = [ 0. 12. 139. 151.]
96 cord_individual_obj[indivial_i, :] = [ 1. 11. 161. 172.]
97 cord_individual_obj[indivial_i, :] = [ 2. 12. 91. 103.]
98 cord_individual_obj[indivial_i, :] = [ 3. 10. 136. 146.]
99 cord_individual_obj[indivial_i, :] = [ 4. 11. 173. 184.]
100 cord_individual_obj[indivial_i, :] = [ 5. 11. 145. 156.]
101 cord_individual_obj[indivial_i, :] = [ 6. 10. 130. 140.]
102 cord_individual_obj[indivial_i, :] = [ 7. 11. 129. 140.]
103 cord_individual_obj[indivial_i, :] = [ 8. 12. 97. 109.]
104 cord_individual_obj[indivial_i, :] = [ 9. 10. 155. 165.]
105 cord_individual_obj[indivial_i, :] = [ 10. 12. 172. 184.]
106 cord_individual_obj[indivial_i, :] = [ 11. 10. 128. 138.]
107 cord_individual_obj[indivial_i, :] = [ 12. 12. 202. 214.]
108 cord_individual_obj[indivial_i, :] = [ 13. 12. 161. 173.]
109 cord_individual_obj[indivial_i, :] = [ 14. 10. 161. 171.]
110 cord_individual_obj[indivial_i, :] = [ 15. 10. 195. 205.]
111 cord_individual_obj[indivial_i, :] = [ 16. 13. 120. 133.]
112 cord_individual_obj[indivial_i, :] = [ 17. 11. 129. 140.]
113 cord_individual_obj[indivial_i, :] = [ 18. 11. 109. 120.]
114 cord_individual_obj[indivial_i, :] = [ 19. 10. 164. 174.]
115 cord_individual_obj[indivial_i, :] = [ 20. 14. 118. 132.]
116 cord_individual_obj[indivial_i, :] = [ 21. 12. 155. 167.]
117 cord_individual_obj[indivial_i, :] = [ 22. 9. 116. 125.]
118 cord_individual_obj[indivial_i, :] = [ 23. 12. 125. 137.]
119 cord_individual_obj[indivial_i, :] = [ 24. 11. 124. 135.]
120
121 min(cord_individual_obj[:, 3]) = 103.0
122 historl_G_best_iter[iter, 3] = 103.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i, :] = [ 0. 11. 108. 119.]
127 cord_individual_obj[indivial_i, :] = [ 1. 12. 209. 221.]
128 cord_individual_obj[indivial_i, :] = [ 2. 12. 129. 141.]
129 cord_individual_obj[indivial_i, :] = [ 3. 10. 179. 189.]
130 cord_individual_obj[indivial_i, :] = [ 4. 10. 117. 127.]
131 cord_individual_obj[indivial_i, :] = [ 5. 11. 154. 165.]
132 cord_individual_obj[indivial_i, :] = [ 6. 9. 177. 186.]
133 cord_individual_obj[indivial_i, :] = [ 7. 11. 139. 150.]
134 cord_individual_obj[indivial_i, :] = [ 8. 12. 148. 160.]
135 cord_individual_obj[indivial_i, :] = [ 9. 11. 141. 152.]
136 cord_individual_obj[indivial_i, :] = [ 10. 13. 170. 183.]
137 cord_individual_obj[indivial_i, :] = [ 11. 12. 126. 138.]
138 cord_individual_obj[indivial_i, :] = [ 12. 12. 91. 103.]
139 cord_individual_obj[indivial_i, :] = [ 13. 10. 138. 148.]
140 cord_individual_obj[indivial_i, :] = [ 14. 13. 151. 164.]
141 cord_individual_obj[indivial_i, :] = [ 15. 11. 130. 141.]
142 cord_individual_obj[indivial_i, :] = [ 16. 12. 124. 136.]
143 cord_individual_obj[indivial_i, :] = [ 17. 11. 110. 121.]
144 cord_individual_obj[indivial_i, :] = [ 18. 11. 127. 138.]
145 cord_individual_obj[indivial_i, :] = [ 19. 12. 165. 177.]
146 cord_individual_obj[indivial_i, :] = [ 20. 12. 110. 122.]
147 cord_individual_obj[indivial_i, :] = [ 21. 11. 131. 142.]
148 cord_individual_obj[indivial_i, :] = [ 22. 9. 121. 130.]
149 cord_individual_obj[indivial_i, :] = [ 23. 13. 132. 145.]
150 cord_individual_obj[indivial_i, :] = [ 24. 11. 112. 123.]
151
152 min(cord_individual_obj[:, 3]) = 103.0
153 historl_G_best_iter[iter, 3] = 103.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i, :] = [ 0. 12. 119. 131.]
158 cord_individual_obj[indivial_i, :] = [ 1. 12. 91. 103.]
159 cord_individual_obj[indivial_i, :] = [ 2. 11. 139. 150.]
160 cord_individual_obj[indivial_i, :] = [ 3. 11. 98. 109.]
161 cord_individual_obj[indivial_i, :] = [ 4. 12. 117. 129.]
162 cord_individual_obj[indivial_i, :] = [ 5. 11. 83. 94.]
163 cord_individual_obj[indivial_i, :] = [ 6. 13. 130. 143.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 14. 169. 183.]
165 cord_individual_obj[indivial_i,:] = [ 8. 14. 118. 132.]
166 cord_individual_obj[indivial_i,:] = [ 9. 13. 145. 158.]
167 cord_individual_obj[indivial_i,:] = [ 10. 12. 131. 143.]
168 cord_individual_obj[indivial_i,:] = [ 11. 10. 141. 151.]
169 cord_individual_obj[indivial_i,:] = [ 12. 11. 198. 209.]
170 cord_individual_obj[indivial_i,:] = [ 13. 10. 140. 150.]
171 cord_individual_obj[indivial_i,:] = [ 14. 11. 170. 181.]
172 cord_individual_obj[indivial_i,:] = [ 15. 12. 118. 130.]
173 cord_individual_obj[indivial_i,:] = [ 16. 13. 156. 169.]
174 cord_individual_obj[indivial_i,:] = [ 17. 11. 115. 126.]
175 cord_individual_obj[indivial_i,:] = [ 18. 13. 110. 123.]
176 cord_individual_obj[indivial_i,:] = [ 19. 12. 131. 143.]
177 cord_individual_obj[indivial_i,:] = [ 20. 12. 172. 184.]
178 cord_individual_obj[indivial_i,:] = [ 21. 11. 138. 149.]
179 cord_individual_obj[indivial_i,:] = [ 22. 9. 132. 141.]
180 cord_individual_obj[indivial_i,:] = [ 23. 13. 118. 131.]
181 cord_individual_obj[indivial_i,:] = [ 24. 11. 100. 111.]
182
183 min(cord_individual_obj[:,3]) = 94.0
184 historl_G_best_iter[iter, 3] = 94.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 12. 168. 180.]
189 cord_individual_obj[indivial_i,:] = [ 1. 12. 150. 162.]
190 cord_individual_obj[indivial_i,:] = [ 2. 11. 125. 136.]
191 cord_individual_obj[indivial_i,:] = [ 3. 13. 146. 159.]
192 cord_individual_obj[indivial_i,:] = [ 4. 11. 133. 144.]
193 cord_individual_obj[indivial_i,:] = [ 5. 9. 131. 140.]
194 cord_individual_obj[indivial_i,:] = [ 6. 12. 137. 149.]
195 cord_individual_obj[indivial_i,:] = [ 7. 11. 142. 153.]
196 cord_individual_obj[indivial_i,:] = [ 8. 13. 163. 176.]
197 cord_individual_obj[indivial_i,:] = [ 9. 12. 155. 167.]
198 cord_individual_obj[indivial_i,:] = [ 10. 11. 148. 159.]
199 cord_individual_obj[indivial_i,:] = [ 11. 9. 120. 129.]
200 cord_individual_obj[indivial_i,:] = [ 12. 11. 83. 94.]
201 cord_individual_obj[indivial_i,:] = [ 13. 11. 104. 115.]
202 cord_individual_obj[indivial_i,:] = [ 14. 10. 150. 160.]
203 cord_individual_obj[indivial_i,:] = [ 15. 12. 135. 147.]
204 cord_individual_obj[indivial_i,:] = [ 16. 11. 163. 174.]
205 cord_individual_obj[indivial_i,:] = [ 17. 12. 181. 193.]
206 cord_individual_obj[indivial_i,:] = [ 18. 10. 149. 159.]
207 cord_individual_obj[indivial_i,:] = [ 19. 10. 128. 138.]
208 cord_individual_obj[indivial_i,:] = [ 20. 13. 131. 144.]
209 cord_individual_obj[indivial_i,:] = [ 21. 10. 95. 105.]
210 cord_individual_obj[indivial_i,:] = [ 22. 9. 116. 125.]
211 cord_individual_obj[indivial_i,:] = [ 23. 12. 145. 157.]
212 cord_individual_obj[indivial_i,:] = [ 24. 11. 160. 171.]
213
214 min(cord_individual_obj[:,3]) = 94.0
215 historl_G_best_iter[iter, 3] = 94.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 13. 128. 141.]
220 cord_individual_obj[indivial_i,:] = [ 1. 10. 100. 110.]
221 cord_individual_obj[indivial_i,:] = [ 2. 11. 120. 131.]
222 cord_individual_obj[indivial_i,:] = [ 3. 11. 138. 149.]
223 cord_individual_obj[indivial_i,:] = [ 4. 13. 131. 144.]
224 cord_individual_obj[indivial_i,:] = [ 5. 11. 138. 149.]
225 cord_individual_obj[indivial_i,:] = [ 6. 12. 168. 180.]
226 cord_individual_obj[indivial_i,:] = [ 7. 11. 195. 206.]
227 cord_individual_obj[indivial_i,:] = [ 8. 13. 131. 144.]
228 cord_individual_obj[indivial_i,:] = [ 9. 11. 195. 206.]
229 cord_individual_obj[indivial_i,:] = [ 10. 11. 118. 129.]
230 cord_individual_obj[indivial_i,:] = [ 11. 9. 103. 112.]
231 cord_individual_obj[indivial_i,:] = [ 12. 13. 146. 159.]
232 cord_individual_obj[indivial_i,:] = [ 13. 10. 122. 132.]
233 cord_individual_obj[indivial_i,:] = [ 14. 10. 171. 181.]
234 cord_individual_obj[indivial_i,:] = [ 15. 10. 137. 147.]
235 cord_individual_obj[indivial_i,:] = [ 16. 10. 145. 155.]
236 cord_individual_obj[indivial_i,:] = [ 17. 11. 83. 94.]
237 cord_individual_obj[indivial_i,:] = [ 18. 12. 168. 180.]
238 cord_individual_obj[indivial_i,:] = [ 19. 12. 148. 160.]
239 cord_individual_obj[indivial_i,:] = [ 20. 12. 165. 177.]
240 cord_individual_obj[indivial_i,:] = [ 21. 11. 104. 115.]
241 cord_individual_obj[indivial_i,:] = [ 22. 10. 133. 143.]
242 cord_individual_obj[indivial_i,:] = [ 23. 11. 157. 168.]
243 cord_individual_obj[indivial_i,:] = [ 24. 11. 163. 174.]
244
245 min(cord_individual_obj[:,3]) = 94.0
246 historl_G_best_iter[iter, 3] = 94.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0. 11. 155. 166.]
251 cord_individual_obj[indivial_i, :] = [ 1. 12. 160. 172.]
252 cord_individual_obj[indivial_i, :] = [ 2. 13. 155. 168.]
253 cord_individual_obj[indivial_i, :] = [ 3. 13. 111. 124.]
254 cord_individual_obj[indivial_i, :] = [ 4. 12. 173. 185.]
255 cord_individual_obj[indivial_i, :] = [ 5. 11. 158. 169.]
256 cord_individual_obj[indivial_i, :] = [ 6. 11. 187. 198.]
257 cord_individual_obj[indivial_i, :] = [ 7. 11. 83. 94.]
258 cord_individual_obj[indivial_i, :] = [ 8. 12. 127. 139.]
259 cord_individual_obj[indivial_i, :] = [ 9. 10. 149. 159.]
260 cord_individual_obj[indivial_i, :] = [ 10. 10. 119. 129.]
261 cord_individual_obj[indivial_i, :] = [ 11. 11. 162. 173.]
262 cord_individual_obj[indivial_i, :] = [ 12. 12. 121. 133.]
263 cord_individual_obj[indivial_i, :] = [ 13. 11. 204. 215.]
264 cord_individual_obj[indivial_i, :] = [ 14. 11. 153. 164.]
265 cord_individual_obj[indivial_i, :] = [ 15. 11. 142. 153.]
266 cord_individual_obj[indivial_i, :] = [ 16. 10. 102. 112.]
267 cord_individual_obj[indivial_i, :] = [ 17. 11. 126. 137.]
268 cord_individual_obj[indivial_i, :] = [ 18. 12. 149. 161.]
269 cord_individual_obj[indivial_i, :] = [ 19. 10. 130. 140.]
270 cord_individual_obj[indivial_i, :] = [ 20. 10. 132. 142.]
271 cord_individual_obj[indivial_i, :] = [ 21. 11. 111. 122.]
272 cord_individual_obj[indivial_i, :] = [ 22. 10. 167. 177.]
273 cord_individual_obj[indivial_i, :] = [ 23. 11. 120. 131.]
274 cord_individual_obj[indivial_i, :] = [ 24. 12. 122. 134.]
275

276 min(cord_individual_obj[:, 3]) = 94.0
277 historl_G_best_iter[iter, 3] = 94.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0. 11. 108. 119.]
282 cord_individual_obj[indivial_i, :] = [ 1. 12. 144. 156.]
283 cord_individual_obj[indivial_i, :] = [ 2. 11. 104. 115.]
284 cord_individual_obj[indivial_i, :] = [ 3. 12. 144. 156.]
285 cord_individual_obj[indivial_i, :] = [ 4. 10. 133. 143.]
286 cord_individual_obj[indivial_i, :] = [ 5. 12. 189. 201.]
287 cord_individual_obj[indivial_i, :] = [ 6. 10. 162. 172.]
288 cord_individual_obj[indivial_i, :] = [ 7. 12. 122. 134.]
289 cord_individual_obj[indivial_i, :] = [ 8. 10. 95. 105.]
290 cord_individual_obj[indivial_i, :] = [ 9. 10. 133. 143.]
291 cord_individual_obj[indivial_i, :] = [ 10. 10. 115. 125.]
292 cord_individual_obj[indivial_i, :] = [ 11. 11. 145. 156.]
293 cord_individual_obj[indivial_i, :] = [ 12. 10. 195. 205.]
294 cord_individual_obj[indivial_i, :] = [ 13. 11. 83. 94.]
295 cord_individual_obj[indivial_i, :] = [ 14. 11. 168. 179.]
296 cord_individual_obj[indivial_i, :] = [ 15. 12. 131. 143.]
297 cord_individual_obj[indivial_i, :] = [ 16. 11. 130. 141.]
298 cord_individual_obj[indivial_i, :] = [ 17. 11. 154. 165.]
299 cord_individual_obj[indivial_i, :] = [ 18. 9. 100. 109.]
300 cord_individual_obj[indivial_i, :] = [ 19. 10. 135. 145.]
301 cord_individual_obj[indivial_i, :] = [ 20. 11. 126. 137.]
302 cord_individual_obj[indivial_i, :] = [ 21. 12. 147. 159.]
303 cord_individual_obj[indivial_i, :] = [ 22. 11. 117. 128.]
304 cord_individual_obj[indivial_i, :] = [ 23. 10. 121. 131.]
305 cord_individual_obj[indivial_i, :] = [ 24. 11. 147. 158.]
306

307 min(cord_individual_obj[:, 3]) = 94.0
308 historl_G_best_iter[iter, 3] = 94.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0. 10. 87. 97.]
313 cord_individual_obj[indivial_i, :] = [ 1. 10. 133. 143.]
314 cord_individual_obj[indivial_i, :] = [ 2. 12. 163. 175.]
315 cord_individual_obj[indivial_i, :] = [ 3. 12. 123. 135.]
316 cord_individual_obj[indivial_i, :] = [ 4. 10. 156. 166.]
317 cord_individual_obj[indivial_i, :] = [ 5. 12. 140. 152.]
318 cord_individual_obj[indivial_i, :] = [ 6. 13. 135. 148.]
319 cord_individual_obj[indivial_i, :] = [ 7. 10. 162. 172.]
320 cord_individual_obj[indivial_i, :] = [ 8. 14. 124. 138.]
321 cord_individual_obj[indivial_i, :] = [ 9. 14. 185. 199.]
322 cord_individual_obj[indivial_i, :] = [ 10. 10. 117. 127.]
323 cord_individual_obj[indivial_i, :] = [ 11. 12. 86. 98.]
324 cord_individual_obj[indivial_i, :] = [ 12. 11. 83. 94.]
325 cord_individual_obj[indivial_i, :] = [ 13. 10. 164. 174.]
326 cord_individual_obj[indivial_i, :] = [ 14. 9. 108. 117.]
327 cord_individual_obj[indivial_i, :] = [ 15. 10. 135. 145.]
328 cord_individual_obj[indivial_i, :] = [ 16. 13. 163. 176.]
329 cord_individual_obj[indivial_i, :] = [ 17. 11. 159. 170.]
330 cord_individual_obj[indivial_i, :] = [ 18. 13. 137. 150.]
331 cord_individual_obj[indivial_i, :] = [ 19. 10. 130. 140.]

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unknown

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332     cord_individual_obj[indivial_i, :] = [ 20. 11. 126. 137.]  
333     cord_individual_obj[indivial_i, :] = [ 21. 11. 98. 109.]  
334     cord_individual_obj[indivial_i, :] = [ 22. 9. 101. 110.]  
335     cord_individual_obj[indivial_i, :] = [ 23. 10. 166. 176.]  
336     cord_individual_obj[indivial_i, :] = [ 24. 12. 145. 157.]  
337  
338 min(cord_individual_obj[:, 3]) = 94.0  
339 historl_G_best_iter[iter, 3] = 94.0  
340 Begin iteration:  
341  
342 iter = 10  
343     cord_individual_obj[indivial_i, :] = [ 0. 9. 125. 134.]  
344     cord_individual_obj[indivial_i, :] = [ 1. 11. 203. 214.]  
345     cord_individual_obj[indivial_i, :] = [ 2. 11. 155. 166.]  
346     cord_individual_obj[indivial_i, :] = [ 3. 12. 135. 147.]  
347     cord_individual_obj[indivial_i, :] = [ 4. 14. 127. 141.]  
348     cord_individual_obj[indivial_i, :] = [ 5. 11. 108. 119.]  
349     cord_individual_obj[indivial_i, :] = [ 6. 12. 118. 130.]  
350     cord_individual_obj[indivial_i, :] = [ 7. 11. 150. 161.]  
351     cord_individual_obj[indivial_i, :] = [ 8. 11. 112. 123.]  
352     cord_individual_obj[indivial_i, :] = [ 9. 11. 83. 94.]  
353     cord_individual_obj[indivial_i, :] = [ 10. 10. 121. 131.]  
354     cord_individual_obj[indivial_i, :] = [ 11. 11. 167. 178.]  
355     cord_individual_obj[indivial_i, :] = [ 12. 12. 144. 156.]  
356     cord_individual_obj[indivial_i, :] = [ 13. 12. 106. 118.]  
357     cord_individual_obj[indivial_i, :] = [ 14. 13. 161. 174.]  
358     cord_individual_obj[indivial_i, :] = [ 15. 13. 159. 172.]  
359     cord_individual_obj[indivial_i, :] = [ 16. 11. 204. 215.]  
360     cord_individual_obj[indivial_i, :] = [ 17. 11. 114. 125.]  
361     cord_individual_obj[indivial_i, :] = [ 18. 12. 139. 151.]  
362     cord_individual_obj[indivial_i, :] = [ 19. 12. 155. 167.]  
363     cord_individual_obj[indivial_i, :] = [ 20. 11. 180. 191.]  
364     cord_individual_obj[indivial_i, :] = [ 21. 12. 173. 185.]  
365     cord_individual_obj[indivial_i, :] = [ 22. 11. 99. 110.]  
366     cord_individual_obj[indivial_i, :] = [ 23. 11. 119. 130.]  
367     cord_individual_obj[indivial_i, :] = [ 24. 10. 147. 157.]  
368  
369 min(cord_individual_obj[:, 3]) = 94.0  
370 historl_G_best_iter[iter, 3] = 94.0  
371 Begin iteration:  
372  
373 iter = 11  
374     cord_individual_obj[indivial_i, :] = [ 0. 10. 192. 202.]  
375     cord_individual_obj[indivial_i, :] = [ 1. 9. 157. 166.]  
376     cord_individual_obj[indivial_i, :] = [ 2. 12. 127. 139.]  
377     cord_individual_obj[indivial_i, :] = [ 3. 12. 202. 214.]  
378     cord_individual_obj[indivial_i, :] = [ 4. 11. 168. 179.]  
379     cord_individual_obj[indivial_i, :] = [ 5. 9. 162. 171.]  
380     cord_individual_obj[indivial_i, :] = [ 6. 10. 139. 149.]  
381     cord_individual_obj[indivial_i, :] = [ 7. 13. 127. 140.]  
382     cord_individual_obj[indivial_i, :] = [ 8. 14. 170. 184.]  
383     cord_individual_obj[indivial_i, :] = [ 9. 13. 123. 136.]  
384     cord_individual_obj[indivial_i, :] = [ 10. 11. 129. 140.]  
385     cord_individual_obj[indivial_i, :] = [ 11. 12. 132. 144.]  
386     cord_individual_obj[indivial_i, :] = [ 12. 12. 119. 131.]  
387     cord_individual_obj[indivial_i, :] = [ 13. 13. 129. 142.]  
388     cord_individual_obj[indivial_i, :] = [ 14. 10. 163. 173.]  
389     cord_individual_obj[indivial_i, :] = [ 15. 9. 130. 139.]  
390     cord_individual_obj[indivial_i, :] = [ 16. 11. 83. 94.]  
391     cord_individual_obj[indivial_i, :] = [ 17. 11. 204. 215.]  
392     cord_individual_obj[indivial_i, :] = [ 18. 14. 117. 131.]  
393     cord_individual_obj[indivial_i, :] = [ 19. 11. 142. 153.]  
394     cord_individual_obj[indivial_i, :] = [ 20. 11. 166. 177.]  
395     cord_individual_obj[indivial_i, :] = [ 21. 13. 161. 174.]  
396     cord_individual_obj[indivial_i, :] = [ 22. 9. 104. 113.]  
397     cord_individual_obj[indivial_i, :] = [ 23. 13. 124. 137.]  
398     cord_individual_obj[indivial_i, :] = [ 24. 13. 143. 156.]  
399  
400 min(cord_individual_obj[:, 3]) = 94.0  
401 historl_G_best_iter[iter, 3] = 94.0  
402 Begin iteration:  
403  
404 iter = 12  
405     cord_individual_obj[indivial_i, :] = [ 0. 11. 110. 121.]  
406     cord_individual_obj[indivial_i, :] = [ 1. 12. 157. 169.]  
407     cord_individual_obj[indivial_i, :] = [ 2. 11. 148. 159.]  
408     cord_individual_obj[indivial_i, :] = [ 3. 12. 179. 191.]  
409     cord_individual_obj[indivial_i, :] = [ 4. 12. 124. 136.]  
410     cord_individual_obj[indivial_i, :] = [ 5. 10. 177. 187.]  
411     cord_individual_obj[indivial_i, :] = [ 6. 12. 180. 192.]  
412     cord_individual_obj[indivial_i, :] = [ 7. 11. 122. 133.]  
413     cord_individual_obj[indivial_i, :] = [ 8. 11. 154. 165.]  
414     cord_individual_obj[indivial_i, :] = [ 9. 11. 179. 190.]  
415     cord_individual_obj[indivial_i, :] = [ 10. 13. 110. 123.]
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416 cord_individual_obj[indivial_i,:] = [ 11. 12. 146. 158.]
417 cord_individual_obj[indivial_i,:] = [ 12. 14. 152. 166.]
418 cord_individual_obj[indivial_i,:] = [ 13. 13. 160. 173.]
419 cord_individual_obj[indivial_i,:] = [ 14. 11. 166. 177.]
420 cord_individual_obj[indivial_i,:] = [ 15. 13. 134. 147.]
421 cord_individual_obj[indivial_i,:] = [ 16. 11. 154. 165.]
422 cord_individual_obj[indivial_i,:] = [ 17. 11. 83. 94.]
423 cord_individual_obj[indivial_i,:] = [ 18. 11. 155. 166.]
424 cord_individual_obj[indivial_i,:] = [ 19. 9. 118. 127.]
425 cord_individual_obj[indivial_i,:] = [ 20. 14. 160. 174.]
426 cord_individual_obj[indivial_i,:] = [ 21. 11. 98. 109.]
427 cord_individual_obj[indivial_i,:] = [ 22. 10. 119. 129.]
428 cord_individual_obj[indivial_i,:] = [ 23. 10. 139. 149.]
429 cord_individual_obj[indivial_i,:] = [ 24. 11. 169. 180.]
430
431 min(cord_individual_obj[:,3]) = 94.0
432 histol_G_best_iter[iter,3] = 94.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 12. 150. 162.]
437 cord_individual_obj[indivial_i,:] = [ 1. 11. 143. 154.]
438 cord_individual_obj[indivial_i,:] = [ 2. 11. 127. 138.]
439 cord_individual_obj[indivial_i,:] = [ 3. 12. 168. 180.]
440 cord_individual_obj[indivial_i,:] = [ 4. 12. 114. 126.]
441 cord_individual_obj[indivial_i,:] = [ 5. 10. 130. 140.]
442 cord_individual_obj[indivial_i,:] = [ 6. 11. 83. 94.]
443 cord_individual_obj[indivial_i,:] = [ 7. 11. 108. 119.]
444 cord_individual_obj[indivial_i,:] = [ 8. 14. 124. 138.]
445 cord_individual_obj[indivial_i,:] = [ 9. 14. 127. 141.]
446 cord_individual_obj[indivial_i,:] = [ 10. 11. 177. 188.]
447 cord_individual_obj[indivial_i,:] = [ 11. 11. 189. 200.]
448 cord_individual_obj[indivial_i,:] = [ 12. 10. 149. 159.]
449 cord_individual_obj[indivial_i,:] = [ 13. 11. 131. 142.]
450 cord_individual_obj[indivial_i,:] = [ 14. 11. 133. 144.]
451 cord_individual_obj[indivial_i,:] = [ 15. 12. 138. 150.]
452 cord_individual_obj[indivial_i,:] = [ 16. 12. 117. 129.]
453 cord_individual_obj[indivial_i,:] = [ 17. 11. 122. 133.]
454 cord_individual_obj[indivial_i,:] = [ 18. 11. 72. 83.]
455 cord_individual_obj[indivial_i,:] = [ 19. 10. 98. 108.]
456 cord_individual_obj[indivial_i,:] = [ 20. 13. 150. 163.]
457 cord_individual_obj[indivial_i,:] = [ 21. 13. 148. 161.]
458 cord_individual_obj[indivial_i,:] = [ 22. 10. 111. 121.]
459 cord_individual_obj[indivial_i,:] = [ 23. 11. 100. 111.]
460 cord_individual_obj[indivial_i,:] = [ 24. 12. 148. 160.]
461
462 min(cord_individual_obj[:,3]) = 83.0
463 histol_G_best_iter[iter,3] = 83.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 11. 134. 145.]
468 cord_individual_obj[indivial_i,:] = [ 1. 12. 167. 179.]
469 cord_individual_obj[indivial_i,:] = [ 2. 13. 146. 159.]
470 cord_individual_obj[indivial_i,:] = [ 3. 12. 95. 107.]
471 cord_individual_obj[indivial_i,:] = [ 4. 11. 142. 153.]
472 cord_individual_obj[indivial_i,:] = [ 5. 10. 110. 120.]
473 cord_individual_obj[indivial_i,:] = [ 6. 12. 165. 177.]
474 cord_individual_obj[indivial_i,:] = [ 7. 11. 124. 135.]
475 cord_individual_obj[indivial_i,:] = [ 8. 13. 121. 134.]
476 cord_individual_obj[indivial_i,:] = [ 9. 11. 134. 145.]
477 cord_individual_obj[indivial_i,:] = [ 10. 12. 92. 104.]
478 cord_individual_obj[indivial_i,:] = [ 11. 11. 72. 83.]
479 cord_individual_obj[indivial_i,:] = [ 12. 13. 209. 222.]
480 cord_individual_obj[indivial_i,:] = [ 13. 13. 90. 103.]
481 cord_individual_obj[indivial_i,:] = [ 14. 11. 93. 104.]
482 cord_individual_obj[indivial_i,:] = [ 15. 12. 121. 133.]
483 cord_individual_obj[indivial_i,:] = [ 16. 10. 127. 137.]
484 cord_individual_obj[indivial_i,:] = [ 17. 11. 124. 135.]
485 cord_individual_obj[indivial_i,:] = [ 18. 12. 118. 130.]
486 cord_individual_obj[indivial_i,:] = [ 19. 9. 160. 169.]
487 cord_individual_obj[indivial_i,:] = [ 20. 12. 114. 126.]
488 cord_individual_obj[indivial_i,:] = [ 21. 10. 132. 142.]
489 cord_individual_obj[indivial_i,:] = [ 22. 9. 99. 108.]
490 cord_individual_obj[indivial_i,:] = [ 23. 10. 105. 115.]
491 cord_individual_obj[indivial_i,:] = [ 24. 9. 110. 119.]
492
493 min(cord_individual_obj[:,3]) = 83.0
494 histol_G_best_iter[iter,3] = 83.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 14. 128. 142.]
499 cord_individual_obj[indivial_i,:] = [ 1. 11. 160. 171.]

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500 cord_individual_obj[indivial_i, :] = [ 2. 10. 120. 130.]
501 cord_individual_obj[indivial_i, :] = [ 3. 9. 112. 121.]
502 cord_individual_obj[indivial_i, :] = [ 4. 11. 153. 164.]
503 cord_individual_obj[indivial_i, :] = [ 5. 11. 129. 140.]
504 cord_individual_obj[indivial_i, :] = [ 6. 11. 179. 190.]
505 cord_individual_obj[indivial_i, :] = [ 7. 12. 124. 136.]
506 cord_individual_obj[indivial_i, :] = [ 8. 13. 111. 124.]
507 cord_individual_obj[indivial_i, :] = [ 9. 11. 106. 117.]
508 cord_individual_obj[indivial_i, :] = [ 10. 10. 101. 111.]
509 cord_individual_obj[indivial_i, :] = [ 11. 10. 122. 132.]
510 cord_individual_obj[indivial_i, :] = [ 12. 11. 72. 83.]
511 cord_individual_obj[indivial_i, :] = [ 13. 13. 111. 124.]
512 cord_individual_obj[indivial_i, :] = [ 14. 10. 139. 149.]
513 cord_individual_obj[indivial_i, :] = [ 15. 12. 169. 181.]
514 cord_individual_obj[indivial_i, :] = [ 16. 9. 128. 137.]
515 cord_individual_obj[indivial_i, :] = [ 17. 10. 120. 130.]
516 cord_individual_obj[indivial_i, :] = [ 18. 11. 128. 139.]
517 cord_individual_obj[indivial_i, :] = [ 19. 10. 138. 148.]
518 cord_individual_obj[indivial_i, :] = [ 20. 12. 159. 171.]
519 cord_individual_obj[indivial_i, :] = [ 21. 11. 125. 136.]
520 cord_individual_obj[indivial_i, :] = [ 22. 10. 159. 169.]
521 cord_individual_obj[indivial_i, :] = [ 23. 10. 150. 160.]
522 cord_individual_obj[indivial_i, :] = [ 24. 11. 143. 154.]
523
524 min(cord_individual_obj[:, 3]) = 83.0
525 histol_G_best_iter[iter, 3] = 83.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i, :] = [ 0. 11. 160. 171.]
530 cord_individual_obj[indivial_i, :] = [ 1. 13. 182. 195.]
531 cord_individual_obj[indivial_i, :] = [ 2. 12. 218. 230.]
532 cord_individual_obj[indivial_i, :] = [ 3. 13. 165. 178.]
533 cord_individual_obj[indivial_i, :] = [ 4. 10. 124. 134.]
534 cord_individual_obj[indivial_i, :] = [ 5. 11. 197. 208.]
535 cord_individual_obj[indivial_i, :] = [ 6. 11. 72. 83.]
536 cord_individual_obj[indivial_i, :] = [ 7. 12. 187. 199.]
537 cord_individual_obj[indivial_i, :] = [ 8. 11. 191. 202.]
538 cord_individual_obj[indivial_i, :] = [ 9. 12. 124. 136.]
539 cord_individual_obj[indivial_i, :] = [ 10. 12. 152. 164.]
540 cord_individual_obj[indivial_i, :] = [ 11. 13. 185. 198.]
541 cord_individual_obj[indivial_i, :] = [ 12. 12. 211. 223.]
542 cord_individual_obj[indivial_i, :] = [ 13. 12. 76. 88.]
543 cord_individual_obj[indivial_i, :] = [ 14. 13. 145. 158.]
544 cord_individual_obj[indivial_i, :] = [ 15. 13. 122. 135.]
545 cord_individual_obj[indivial_i, :] = [ 16. 12. 130. 142.]
546 cord_individual_obj[indivial_i, :] = [ 17. 10. 124. 134.]
547 cord_individual_obj[indivial_i, :] = [ 18. 13. 131. 144.]
548 cord_individual_obj[indivial_i, :] = [ 19. 11. 102. 113.]
549 cord_individual_obj[indivial_i, :] = [ 20. 12. 148. 160.]
550 cord_individual_obj[indivial_i, :] = [ 21. 12. 140. 152.]
551 cord_individual_obj[indivial_i, :] = [ 22. 8. 131. 139.]
552 cord_individual_obj[indivial_i, :] = [ 23. 11. 158. 169.]
553 cord_individual_obj[indivial_i, :] = [ 24. 11. 123. 134.]
554
555 min(cord_individual_obj[:, 3]) = 83.0
556 histol_G_best_iter[iter, 3] = 83.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i, :] = [ 0. 12. 142. 154.]
561 cord_individual_obj[indivial_i, :] = [ 1. 10. 216. 226.]
562 cord_individual_obj[indivial_i, :] = [ 2. 11. 72. 83.]
563 cord_individual_obj[indivial_i, :] = [ 3. 9. 113. 122.]
564 cord_individual_obj[indivial_i, :] = [ 4. 11. 120. 131.]
565 cord_individual_obj[indivial_i, :] = [ 5. 11. 100. 111.]
566 cord_individual_obj[indivial_i, :] = [ 6. 12. 125. 137.]
567 cord_individual_obj[indivial_i, :] = [ 7. 11. 121. 132.]
568 cord_individual_obj[indivial_i, :] = [ 8. 10. 119. 129.]
569 cord_individual_obj[indivial_i, :] = [ 9. 10. 133. 143.]
570 cord_individual_obj[indivial_i, :] = [ 10. 11. 116. 127.]
571 cord_individual_obj[indivial_i, :] = [ 11. 10. 139. 149.]
572 cord_individual_obj[indivial_i, :] = [ 12. 14. 132. 146.]
573 cord_individual_obj[indivial_i, :] = [ 13. 11. 97. 108.]
574 cord_individual_obj[indivial_i, :] = [ 14. 12. 112. 124.]
575 cord_individual_obj[indivial_i, :] = [ 15. 12. 100. 112.]
576 cord_individual_obj[indivial_i, :] = [ 16. 9. 134. 143.]
577 cord_individual_obj[indivial_i, :] = [ 17. 12. 134. 146.]
578 cord_individual_obj[indivial_i, :] = [ 18. 12. 115. 127.]
579 cord_individual_obj[indivial_i, :] = [ 19. 10. 129. 139.]
580 cord_individual_obj[indivial_i, :] = [ 20. 11. 120. 131.]
581 cord_individual_obj[indivial_i, :] = [ 21. 12. 113. 125.]
582 cord_individual_obj[indivial_i, :] = [ 22. 11. 154. 165.]
583 cord_individual_obj[indivial_i, :] = [ 23. 9. 107. 116.]

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584     cord_individual_obj[indivial_i, :] = [ 24. 10. 112. 122.]
585
586     min(cord_individual_obj[:, 3]) = 83.0
587     historl_G_best_iter[iter, 3] = 83.0
588 Begin iteration:
589
590 iter = 18
591     cord_individual_obj[indivial_i, :] = [ 0. 11. 170. 181.]
592     cord_individual_obj[indivial_i, :] = [ 1. 11. 72. 83.]
593     cord_individual_obj[indivial_i, :] = [ 2. 12. 92. 104.]
594     cord_individual_obj[indivial_i, :] = [ 3. 10. 144. 154.]
595     cord_individual_obj[indivial_i, :] = [ 4. 12. 143. 155.]
596     cord_individual_obj[indivial_i, :] = [ 5. 10. 141. 151.]
597     cord_individual_obj[indivial_i, :] = [ 6. 11. 175. 186.]
598     cord_individual_obj[indivial_i, :] = [ 7. 11. 143. 154.]
599     cord_individual_obj[indivial_i, :] = [ 8. 10. 135. 145.]
600     cord_individual_obj[indivial_i, :] = [ 9. 11. 154. 165.]
601     cord_individual_obj[indivial_i, :] = [ 10. 14. 137. 151.]
602     cord_individual_obj[indivial_i, :] = [ 11. 12. 147. 159.]
603     cord_individual_obj[indivial_i, :] = [ 12. 13. 135. 148.]
604     cord_individual_obj[indivial_i, :] = [ 13. 13. 113. 126.]
605     cord_individual_obj[indivial_i, :] = [ 14. 11. 100. 111.]
606     cord_individual_obj[indivial_i, :] = [ 15. 11. 173. 184.]
607     cord_individual_obj[indivial_i, :] = [ 16. 9. 140. 149.]
608     cord_individual_obj[indivial_i, :] = [ 17. 12. 136. 148.]
609     cord_individual_obj[indivial_i, :] = [ 18. 13. 135. 148.]
610     cord_individual_obj[indivial_i, :] = [ 19. 10. 150. 160.]
611     cord_individual_obj[indivial_i, :] = [ 20. 12. 126. 138.]
612     cord_individual_obj[indivial_i, :] = [ 21. 11. 147. 158.]
613     cord_individual_obj[indivial_i, :] = [ 22. 10. 175. 185.]
614     cord_individual_obj[indivial_i, :] = [ 23. 11. 191. 202.]
615     cord_individual_obj[indivial_i, :] = [ 24. 11. 210. 221.]
616
617     min(cord_individual_obj[:, 3]) = 83.0
618     historl_G_best_iter[iter, 3] = 83.0
619 Begin iteration:
620
621 iter = 19
622     cord_individual_obj[indivial_i, :] = [ 0. 13. 145. 158.]
623     cord_individual_obj[indivial_i, :] = [ 1. 9. 119. 128.]
624     cord_individual_obj[indivial_i, :] = [ 2. 13. 108. 121.]
625     cord_individual_obj[indivial_i, :] = [ 3. 12. 167. 179.]
626     cord_individual_obj[indivial_i, :] = [ 4. 11. 136. 147.]
627     cord_individual_obj[indivial_i, :] = [ 5. 10. 121. 131.]
628     cord_individual_obj[indivial_i, :] = [ 6. 11. 108. 119.]
629     cord_individual_obj[indivial_i, :] = [ 7. 10. 122. 132.]
630     cord_individual_obj[indivial_i, :] = [ 8. 12. 143. 155.]
631     cord_individual_obj[indivial_i, :] = [ 9. 11. 118. 129.]
632     cord_individual_obj[indivial_i, :] = [ 10. 13. 100. 113.]
633     cord_individual_obj[indivial_i, :] = [ 11. 12. 137. 149.]
634     cord_individual_obj[indivial_i, :] = [ 12. 14. 218. 232.]
635     cord_individual_obj[indivial_i, :] = [ 13. 13. 97. 110.]
636     cord_individual_obj[indivial_i, :] = [ 14. 13. 128. 141.]
637     cord_individual_obj[indivial_i, :] = [ 15. 15. 109. 124.]
638     cord_individual_obj[indivial_i, :] = [ 16. 10. 93. 103.]
639     cord_individual_obj[indivial_i, :] = [ 17. 12. 135. 147.]
640     cord_individual_obj[indivial_i, :] = [ 18. 14. 112. 126.]
641     cord_individual_obj[indivial_i, :] = [ 19. 9. 113. 122.]
642     cord_individual_obj[indivial_i, :] = [ 20. 12. 132. 144.]
643     cord_individual_obj[indivial_i, :] = [ 21. 12. 102. 114.]
644     cord_individual_obj[indivial_i, :] = [ 22. 11. 147. 158.]
645     cord_individual_obj[indivial_i, :] = [ 23. 11. 109. 120.]
646     cord_individual_obj[indivial_i, :] = [ 24. 11. 72. 83.]
647
648     min(cord_individual_obj[:, 3]) = 83.0
649     historl_G_best_iter[iter, 3] = 83.0
650 Begin iteration:
651
652 iter = 20
653     cord_individual_obj[indivial_i, :] = [ 0. 13. 173. 186.]
654     cord_individual_obj[indivial_i, :] = [ 1. 12. 125. 137.]
655     cord_individual_obj[indivial_i, :] = [ 2. 11. 131. 142.]
656     cord_individual_obj[indivial_i, :] = [ 3. 11. 104. 115.]
657     cord_individual_obj[indivial_i, :] = [ 4. 12. 158. 170.]
658     cord_individual_obj[indivial_i, :] = [ 5. 12. 101. 113.]
659     cord_individual_obj[indivial_i, :] = [ 6. 9. 167. 176.]
660     cord_individual_obj[indivial_i, :] = [ 7. 10. 132. 142.]
661     cord_individual_obj[indivial_i, :] = [ 8. 12. 151. 163.]
662     cord_individual_obj[indivial_i, :] = [ 9. 12. 206. 218.]
663     cord_individual_obj[indivial_i, :] = [ 10. 13. 151. 164.]
664     cord_individual_obj[indivial_i, :] = [ 11. 10. 124. 134.]
665     cord_individual_obj[indivial_i, :] = [ 12. 11. 72. 83.]
666     cord_individual_obj[indivial_i, :] = [ 13. 11. 63. 74.]
667     cord_individual_obj[indivial_i, :] = [ 14. 12. 129. 141.]

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668 cord_individual_obj[indivial_i,:] = [ 15. 12. 158. 170.]
669 cord_individual_obj[indivial_i,:] = [ 16. 10. 126. 136.]
670 cord_individual_obj[indivial_i,:] = [ 17. 11. 122. 133.]
671 cord_individual_obj[indivial_i,:] = [ 18. 11. 102. 113.]
672 cord_individual_obj[indivial_i,:] = [ 19. 11. 151. 162.]
673 cord_individual_obj[indivial_i,:] = [ 20. 12. 101. 113.]
674 cord_individual_obj[indivial_i,:] = [ 21. 12. 185. 197.]
675 cord_individual_obj[indivial_i,:] = [ 22. 11. 85. 96.]
676 cord_individual_obj[indivial_i,:] = [ 23. 11. 138. 149.]
677 cord_individual_obj[indivial_i,:] = [ 24. 9. 111. 120.]
678
679 min(cord_individual_obj[:, 3]) = 74.0
680 historl_G_best_iter[iter, 3] = 74.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 238.0
689 Proportion_of_area = 0.22037037037037038
690 BEST_CHROM =
691 berth: [12. 17.5 23.5 15. 4.5 11. 13.5 2.5 1.5 9.5 13.5 6.5 24.5 4.
692 7. 24.5 18.5 13.5 2. ]
693 time: [ 8. 10. 6. 3. 8. 6. 2. 6. 1. 4. 1. 2. 0. 4. 0. 2. 0. 0.
694 0.]
695 num_QC: [3. 5. 2. 2. 3. 5. 6. 2. 2. 3. 3. 2. 3. 4. 5. 2. 3. 5. 4.]
696 Objective function values and some other indicators:
697 Obj0 = 11.00 Obj1 = 63.00 Obj0 + Obj1 = 74.00
698 Total movement of crane: 0.00
699 Total waiting time in berth position: 63.00
700 Total index of q during berthing: 1127.00
701 Specific arrangement for each vessel:
702 V_id: 0 li: 6.0 xi: 12.0 bow of i: 9.0 tail of i: 15.0 gama_i0: 8.0 gama_i1: work
703 10.0 load_i: 140.0 gama_i1 + 1: 11.0 gama_i1 - gama_i0: 2.0 duration_time_i: 3.0 demand_i: 140.0
704 V_id: 1 li: 5.0 xi: 17.5 bow of i: 15.0 tail of i: 20.0 gama_i0: 10.0 gama_i1: work
705 11.0 load_i: 120.0 gama_i1 + 1: 12.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 120.0
706 V_id: 2 li: 9.0 xi: 23.5 bow of i: 19.0 tail of i: 28.0 gama_i0: 6.0 gama_i1: 9 work
707 .0 load_i: 140.0 gama_i1 + 1: 10.0 gama_i1 - gama_i0: 3.0 duration_time_i: 4.0 demand_i: 140.0
708 V_id: 3 li: 8.0 xi: 15.0 bow of i: 11.0 tail of i: 19.0 gama_i0: 3.0 gama_i1: 5 work
709 .0 load_i: 120.0 gama_i1 + 1: 6.0 gama_i1 - gama_i0: 2.0 duration_time_i: 3.0 demand_i: 120.0
710 V_id: 4 li: 9.0 xi: 4.5 bow of i: 0.0 tail of i: 9.0 gama_i0: 8.0 gama_i1: 9.0 work
711 load_i: 80.0 gama_i1 + 1: 10.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 80.0
712 V_id: 5 li: 6.0 xi: 11.0 bow of i: 8.0 tail of i: 14.0 gama_i0: 6.0 gama_i1: 7 work
713 .0 load_i: 160.0 gama_i1 + 1: 8.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 160.0
714 V_id: 6 li: 7.0 xi: 13.5 bow of i: 10.0 tail of i: 17.0 gama_i0: 2.0 gama_i1: 2 work
715 .0 load_i: 100.0 gama_i1 + 1: 3.0 gama_i1 - gama_i0: 0.0 duration_time_i: 1.0 demand_i: 100.0
716 V_id: 7 li: 5.0 xi: 2.5 bow of i: 0.0 tail of i: 5.0 gama_i0: 6.0 gama_i1: 7.0 work load_i: 60.0
717 60.0 gama_i1 + 1: 8.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 60.0
718 V_id: 8 li: 3.0 xi: 1.5 bow of i: 0.0 tail of i: 3.0 gama_i0: 1.0 gama_i1: 3.0 work load_i: 100.0
719 100.0 gama_i1 + 1: 4.0 gama_i1 - gama_i0: 2.0 duration_time_i: 3.0 demand_i: 100.0
720 V_id: 9 li: 3.0 xi: 9.5 bow of i: 8.0 tail of i: 11.0 gama_i0: 4.0 gama_i1: 5.0 work load_i: 120.0
721 120.0 gama_i1 + 1: 6.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 120.0
722 V_id: 10 li: 7.0 xi: 13.5 bow of i: 10.0 tail of i: 17.0 gama_i0: 1.0 gama_i1: 1 work
723 : 1.0 load_i: 60.0 gama_i1 + 1: 2.0 gama_i1 - gama_i0: 0.0 duration_time_i: 1.0 demand_i: 60.0
724 V_id: 11 li: 7.0 xi: 6.5 bow of i: 3.0 tail of i: 10.0 gama_i0: 2.0 gama_i1: 3 work
725 .0 load_i: 60.0 gama_i1 + 1: 4.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 60.0
726 V_id: 12 li: 9.0 xi: 24.5 bow of i: 20.0 tail of i: 29.0 gama_i0: 0.0 gama_i1: 1 work
727 : 1.0 load_i: 80.0 gama_i1 + 1: 2.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 80.0
728 V_id: 13 li: 8.0 xi: 4.0 bow of i: 0.0 tail of i: 8.0 gama_i0: 4.0 gama_i1: 5.0 work load_i: 160.0
729 160.0 gama_i1 + 1: 6.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 160.0
730 V_id: 14 li: 6.0 xi: 7.0 bow of i: 4.0 tail of i: 10.0 gama_i0: 0.0 gama_i1: 1 work
731 .0 load_i: 160.0 gama_i1 + 1: 2.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 160.0
732 V_id: 15 li: 9.0 xi: 24.5 bow of i: 20.0 tail of i: 29.0 gama_i0: 2.0 gama_i1: 1 work
733 : 5.0 load_i: 160.0 gama_i1 + 1: 6.0 gama_i1 - gama_i0: 3.0 duration_time_i: 4.0 demand_i: 160.0
734 V_id: 16 li: 3.0 xi: 18.5 bow of i: 17.0 tail of i: 20.0 gama_i0: 0.0 gama_i1: 1 work
735 : 2.0 gama_i1 + 1: 3.0 gama_i1 - gama_i0: 2.0 duration_time_i: 3.0 demand_i: 160.0

```

unknown

```
718 load_i: 160.0          work load gap_i: 0
719   V_id: 17             li: 7.0           xi: 13.5        bow of i: 10.0      tail of i: 17.0      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
load_i: 100.0          work load gap_i: 0
720   V_id: 18             li: 4.0           xi: 2.0         bow of i: 0.0      tail of i: 4.0       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
80.0          work load gap_i: 0
721
722 Algorithm finished and the total CPU time: 529 s
723 End
724
```