

unknown

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80 cord_individual_obj[indivial_i,:] = [ 16. 9. 136. 145.]
81 cord_individual_obj[indivial_i,:] = [17. 9. 87. 96.]
82 cord_individual_obj[indivial_i,:] = [ 18. 9. 116. 125.]
83 cord_individual_obj[indivial_i,:] = [ 19. 8. 152. 160.]
84 cord_individual_obj[indivial_i,:] = [ 20. 10. 125. 135.]
85 cord_individual_obj[indivial_i,:] = [ 21. 10. 131. 141.]
86 cord_individual_obj[indivial_i,:] = [ 22. 10. 144. 154.]
87 cord_individual_obj[indivial_i,:] = [23. 9. 85. 94.]
88 cord_individual_obj[indivial_i,:] = [ 24. 10. 101. 111.]
89
90 min(cord_individual_obj[:,3]) = 94.0
91 historl_G_best_iter[iter, 3] = 94.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 9. 169. 178.]
96 cord_individual_obj[indivial_i,:] = [ 1. 11. 175. 186.]
97 cord_individual_obj[indivial_i,:] = [ 2. 8. 172. 180.]
98 cord_individual_obj[indivial_i,:] = [ 3. 9. 114. 123.]
99 cord_individual_obj[indivial_i,:] = [ 4. 8. 146. 154.]
100 cord_individual_obj[indivial_i,:] = [ 5. 8. 144. 152.]
101 cord_individual_obj[indivial_i,:] = [ 6. 9. 85. 94.]
102 cord_individual_obj[indivial_i,:] = [ 7. 8. 112. 120.]
103 cord_individual_obj[indivial_i,:] = [ 8. 8. 124. 132.]
104 cord_individual_obj[indivial_i,:] = [ 9. 9. 82. 91.]
105 cord_individual_obj[indivial_i,:] = [ 10. 8. 127. 135.]
106 cord_individual_obj[indivial_i,:] = [ 11. 9. 119. 128.]
107 cord_individual_obj[indivial_i,:] = [ 12. 9. 99. 108.]
108 cord_individual_obj[indivial_i,:] = [ 13. 8. 109. 117.]
109 cord_individual_obj[indivial_i,:] = [ 14. 8. 93. 101.]
110 cord_individual_obj[indivial_i,:] = [ 15. 8. 145. 153.]
111 cord_individual_obj[indivial_i,:] = [ 16. 9. 114. 123.]
112 cord_individual_obj[indivial_i,:] = [ 17. 9. 105. 114.]
113 cord_individual_obj[indivial_i,:] = [ 18. 9. 100. 109.]
114 cord_individual_obj[indivial_i,:] = [ 19. 8. 129. 137.]
115 cord_individual_obj[indivial_i,:] = [ 20. 12. 187. 199.]
116 cord_individual_obj[indivial_i,:] = [ 21. 8. 120. 128.]
117 cord_individual_obj[indivial_i,:] = [ 22. 9. 109. 118.]
118 cord_individual_obj[indivial_i,:] = [ 23. 10. 97. 107.]
119 cord_individual_obj[indivial_i,:] = [24. 9. 73. 82.]
120
121 min(cord_individual_obj[:,3]) = 82.0
122 historl_G_best_iter[iter, 3] = 82.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 8. 102. 110.]
127 cord_individual_obj[indivial_i,:] = [ 1. 11. 124. 135.]
128 cord_individual_obj[indivial_i,:] = [ 2. 10. 123. 133.]
129 cord_individual_obj[indivial_i,:] = [ 3. 8. 100. 108.]
130 cord_individual_obj[indivial_i,:] = [ 4. 9. 121. 130.]
131 cord_individual_obj[indivial_i,:] = [ 5. 11. 89. 100.]
132 cord_individual_obj[indivial_i,:] = [ 6. 8. 110. 118.]
133 cord_individual_obj[indivial_i,:] = [ 7. 9. 161. 170.]
134 cord_individual_obj[indivial_i,:] = [ 8. 8. 105. 113.]
135 cord_individual_obj[indivial_i,:] = [ 9. 11. 182. 193.]
136 cord_individual_obj[indivial_i,:] = [10. 8. 90. 98.]
137 cord_individual_obj[indivial_i,:] = [11. 9. 73. 82.]
138 cord_individual_obj[indivial_i,:] = [12. 8. 101. 109.]
139 cord_individual_obj[indivial_i,:] = [13. 9. 85. 94.]
140 cord_individual_obj[indivial_i,:] = [14. 10. 126. 136.]
141 cord_individual_obj[indivial_i,:] = [15. 10. 131. 141.]
142 cord_individual_obj[indivial_i,:] = [16. 9. 120. 129.]
143 cord_individual_obj[indivial_i,:] = [17. 11. 77. 88.]
144 cord_individual_obj[indivial_i,:] = [18. 8. 156. 164.]
145 cord_individual_obj[indivial_i,:] = [19. 9. 109. 118.]
146 cord_individual_obj[indivial_i,:] = [20. 9. 73. 82.]
147 cord_individual_obj[indivial_i,:] = [21. 9. 96. 105.]
148 cord_individual_obj[indivial_i,:] = [22. 9. 188. 197.]
149 cord_individual_obj[indivial_i,:] = [23. 9. 107. 116.]
150 cord_individual_obj[indivial_i,:] = [24. 11. 91. 102.]
151
152 min(cord_individual_obj[:,3]) = 82.0
153 historl_G_best_iter[iter, 3] = 82.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 10. 87. 97.]
158 cord_individual_obj[indivial_i,:] = [ 1. 10. 117. 127.]
159 cord_individual_obj[indivial_i,:] = [ 2. 10. 76. 86.]
160 cord_individual_obj[indivial_i,:] = [ 3. 10. 123. 133.]
161 cord_individual_obj[indivial_i,:] = [ 4. 9. 77. 86.]
162 cord_individual_obj[indivial_i,:] = [ 5. 9. 95. 104.]
163 cord_individual_obj[indivial_i,:] = [ 6. 10. 143. 153.]

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164 cord_individual_obj[indivial_i, :] = [ 7. 9. 124. 133.]
165 cord_individual_obj[indivial_i, :] = [ 8. 12. 105. 117.]
166 cord_individual_obj[indivial_i, :] = [ 9. 9. 94. 103.]
167 cord_individual_obj[indivial_i, :] = [ 10. 8. 113. 121.]
168 cord_individual_obj[indivial_i, :] = [ 11. 11. 112. 123.]
169 cord_individual_obj[indivial_i, :] = [12. 9. 88. 97.]
170 cord_individual_obj[indivial_i, :] = [13. 8. 129. 137.]
171 cord_individual_obj[indivial_i, :] = [14. 11. 141. 152.]
172 cord_individual_obj[indivial_i, :] = [15. 8. 138. 146.]
173 cord_individual_obj[indivial_i, :] = [16. 10. 87. 97.]
174 cord_individual_obj[indivial_i, :] = [17. 9. 80. 89.]
175 cord_individual_obj[indivial_i, :] = [18. 10. 101. 111.]
176 cord_individual_obj[indivial_i, :] = [19. 9. 146. 155.]
177 cord_individual_obj[indivial_i, :] = [20. 10. 115. 125.]
178 cord_individual_obj[indivial_i, :] = [21. 9. 61. 70.]
179 cord_individual_obj[indivial_i, :] = [22. 9. 73. 82.]
180 cord_individual_obj[indivial_i, :] = [23. 8. 97. 105.]
181 cord_individual_obj[indivial_i, :] = [24. 10. 132. 142.]
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. 10. 76. 86.]
189 cord_individual_obj[indivial_i, :] = [ 1. 11. 104. 115.]
190 cord_individual_obj[indivial_i, :] = [ 2. 11. 137. 148.]
191 cord_individual_obj[indivial_i, :] = [ 3. 8. 152. 160.]
192 cord_individual_obj[indivial_i, :] = [ 4. 9. 125. 134.]
193 cord_individual_obj[indivial_i, :] = [ 5. 11. 68. 79.]
194 cord_individual_obj[indivial_i, :] = [ 6. 9. 122. 131.]
195 cord_individual_obj[indivial_i, :] = [ 7. 8. 79. 87.]
196 cord_individual_obj[indivial_i, :] = [ 8. 13. 80. 93.]
197 cord_individual_obj[indivial_i, :] = [ 9. 10. 69. 79.]
198 cord_individual_obj[indivial_i, :] = [10. 9. 138. 147.]
199 cord_individual_obj[indivial_i, :] = [11. 10. 142. 152.]
200 cord_individual_obj[indivial_i, :] = [12. 11. 114. 125.]
201 cord_individual_obj[indivial_i, :] = [13. 11. 120. 131.]
202 cord_individual_obj[indivial_i, :] = [14. 11. 103. 114.]
203 cord_individual_obj[indivial_i, :] = [15. 12. 118. 130.]
204 cord_individual_obj[indivial_i, :] = [16. 10. 105. 115.]
205 cord_individual_obj[indivial_i, :] = [17. 9. 117. 126.]
206 cord_individual_obj[indivial_i, :] = [18. 8. 173. 181.]
207 cord_individual_obj[indivial_i, :] = [19. 9. 61. 70.]
208 cord_individual_obj[indivial_i, :] = [20. 9. 178. 187.]
209 cord_individual_obj[indivial_i, :] = [21. 11. 115. 126.]
210 cord_individual_obj[indivial_i, :] = [22. 10. 111. 121.]
211 cord_individual_obj[indivial_i, :] = [23. 9. 97. 106.]
212 cord_individual_obj[indivial_i, :] = [24. 9. 121. 130.]
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. 8. 135. 143.]
220 cord_individual_obj[indivial_i, :] = [ 1. 10. 114. 124.]
221 cord_individual_obj[indivial_i, :] = [ 2. 10. 177. 187.]
222 cord_individual_obj[indivial_i, :] = [ 3. 10. 138. 148.]
223 cord_individual_obj[indivial_i, :] = [ 4. 7. 115. 122.]
224 cord_individual_obj[indivial_i, :] = [ 5. 9. 94. 103.]
225 cord_individual_obj[indivial_i, :] = [ 6. 8. 96. 104.]
226 cord_individual_obj[indivial_i, :] = [ 7. 9. 149. 158.]
227 cord_individual_obj[indivial_i, :] = [ 8. 7. 129. 136.]
228 cord_individual_obj[indivial_i, :] = [ 9. 11. 139. 150.]
229 cord_individual_obj[indivial_i, :] = [10. 8. 115. 123.]
230 cord_individual_obj[indivial_i, :] = [11. 12. 66. 78.]
231 cord_individual_obj[indivial_i, :] = [12. 13. 142. 155.]
232 cord_individual_obj[indivial_i, :] = [13. 9. 121. 130.]
233 cord_individual_obj[indivial_i, :] = [14. 11. 98. 109.]
234 cord_individual_obj[indivial_i, :] = [15. 8. 91. 99.]
235 cord_individual_obj[indivial_i, :] = [16. 10. 109. 119.]
236 cord_individual_obj[indivial_i, :] = [17. 11. 96. 107.]
237 cord_individual_obj[indivial_i, :] = [18. 8. 134. 142.]
238 cord_individual_obj[indivial_i, :] = [19. 9. 125. 134.]
239 cord_individual_obj[indivial_i, :] = [20. 9. 61. 70.]
240 cord_individual_obj[indivial_i, :] = [21. 9. 91. 100.]
241 cord_individual_obj[indivial_i, :] = [22. 12. 130. 142.]
242 cord_individual_obj[indivial_i, :] = [23. 12. 111. 123.]
243 cord_individual_obj[indivial_i, :] = [24. 11. 104. 115.]
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. 87. 96.]
251 cord_individual_obj[indivial_i, :] = [ 1. 11. 119. 130.]
252 cord_individual_obj[indivial_i, :] = [ 2.  9. 61. 70.]
253 cord_individual_obj[indivial_i, :] = [ 3.  9. 94. 103.]
254 cord_individual_obj[indivial_i, :] = [ 4. 10. 114. 124.]
255 cord_individual_obj[indivial_i, :] = [ 5.  9. 100. 109.]
256 cord_individual_obj[indivial_i, :] = [ 6.  9. 122. 131.]
257 cord_individual_obj[indivial_i, :] = [ 7. 11. 167. 178.]
258 cord_individual_obj[indivial_i, :] = [ 8.  8. 142. 150.]
259 cord_individual_obj[indivial_i, :] = [ 9.  9. 161. 170.]
260 cord_individual_obj[indivial_i, :] = [10.  8. 134. 142.]
261 cord_individual_obj[indivial_i, :] = [11. 11. 104. 115.]
262 cord_individual_obj[indivial_i, :] = [12. 10. 105. 115.]
263 cord_individual_obj[indivial_i, :] = [13.  9. 91. 100.]
264 cord_individual_obj[indivial_i, :] = [14.  9. 171. 180.]
265 cord_individual_obj[indivial_i, :] = [15.  9. 95. 104.]
266 cord_individual_obj[indivial_i, :] = [16.  9. 89. 98.]
267 cord_individual_obj[indivial_i, :] = [17. 10. 116. 126.]
268 cord_individual_obj[indivial_i, :] = [18. 10. 108. 118.]
269 cord_individual_obj[indivial_i, :] = [19. 10. 143. 153.]
270 cord_individual_obj[indivial_i, :] = [20. 11. 163. 174.]
271 cord_individual_obj[indivial_i, :] = [21. 11. 127. 138.]
272 cord_individual_obj[indivial_i, :] = [22. 11. 132. 143.]
273 cord_individual_obj[indivial_i, :] = [23.  9. 130. 139.]
274 cord_individual_obj[indivial_i, :] = [24. 10. 119. 129.]
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. 10. 78. 88.]
282 cord_individual_obj[indivial_i, :] = [ 1. 11. 107. 118.]
283 cord_individual_obj[indivial_i, :] = [ 2.  9. 124. 133.]
284 cord_individual_obj[indivial_i, :] = [ 3.  9. 150. 159.]
285 cord_individual_obj[indivial_i, :] = [ 4. 10. 125. 135.]
286 cord_individual_obj[indivial_i, :] = [ 5.  9. 129. 138.]
287 cord_individual_obj[indivial_i, :] = [ 6.  9. 104. 113.]
288 cord_individual_obj[indivial_i, :] = [ 7.  8. 94. 102.]
289 cord_individual_obj[indivial_i, :] = [ 8. 10. 94. 104.]
290 cord_individual_obj[indivial_i, :] = [ 9. 11. 100. 111.]
291 cord_individual_obj[indivial_i, :] = [10.  8. 127. 135.]
292 cord_individual_obj[indivial_i, :] = [11. 12. 135. 147.]
293 cord_individual_obj[indivial_i, :] = [12. 11. 109. 120.]
294 cord_individual_obj[indivial_i, :] = [13.  9. 133. 142.]
295 cord_individual_obj[indivial_i, :] = [14.  9. 61. 70.]
296 cord_individual_obj[indivial_i, :] = [15.  8. 104. 112.]
297 cord_individual_obj[indivial_i, :] = [16. 10. 112. 122.]
298 cord_individual_obj[indivial_i, :] = [17. 10. 122. 132.]
299 cord_individual_obj[indivial_i, :] = [18.  8. 125. 133.]
300 cord_individual_obj[indivial_i, :] = [19.  9. 165. 174.]
301 cord_individual_obj[indivial_i, :] = [20. 10. 155. 165.]
302 cord_individual_obj[indivial_i, :] = [21. 12. 93. 105.]
303 cord_individual_obj[indivial_i, :] = [22. 10. 103. 113.]
304 cord_individual_obj[indivial_i, :] = [23.  9. 84. 93.]
305 cord_individual_obj[indivial_i, :] = [24. 10. 96. 106.]
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.  9. 108. 117.]
313 cord_individual_obj[indivial_i, :] = [ 1. 10. 107. 117.]
314 cord_individual_obj[indivial_i, :] = [ 2. 10. 111. 121.]
315 cord_individual_obj[indivial_i, :] = [ 3. 12. 129. 141.]
316 cord_individual_obj[indivial_i, :] = [ 4. 11. 131. 142.]
317 cord_individual_obj[indivial_i, :] = [ 5. 10. 80. 90.]
318 cord_individual_obj[indivial_i, :] = [ 6. 10. 90. 100.]
319 cord_individual_obj[indivial_i, :] = [ 7.  9. 204. 213.]
320 cord_individual_obj[indivial_i, :] = [ 8.  8. 73. 81.]
321 cord_individual_obj[indivial_i, :] = [ 9. 10. 99. 109.]
322 cord_individual_obj[indivial_i, :] = [10. 10. 96. 106.]
323 cord_individual_obj[indivial_i, :] = [11. 12. 144. 156.]
324 cord_individual_obj[indivial_i, :] = [12. 13. 79. 92.]
325 cord_individual_obj[indivial_i, :] = [13.  8. 139. 147.]
326 cord_individual_obj[indivial_i, :] = [14. 12. 135. 147.]
327 cord_individual_obj[indivial_i, :] = [15. 10. 118. 128.]
328 cord_individual_obj[indivial_i, :] = [16.  9. 105. 114.]
329 cord_individual_obj[indivial_i, :] = [17.  9. 122. 131.]
330 cord_individual_obj[indivial_i, :] = [18.  9. 165. 174.]
331 cord_individual_obj[indivial_i, :] = [19.  9. 61. 70.]

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332     cord_individual_obj[indivial_i, :] = [ 20. 12. 137. 149.]
333     cord_individual_obj[indivial_i, :] = [ 21. 11. 83. 94.]
334     cord_individual_obj[indivial_i, :] = [ 22. 10. 83. 93.]
335     cord_individual_obj[indivial_i, :] = [ 23. 10. 102. 112.]
336     cord_individual_obj[indivial_i, :] = [ 24. 10. 118. 128.]
337
338     min(cord_individual_obj[:, 3]) = 70.0
339     historl_G_best_iter[iter, 3] = 70.0
340 Begin iteration:
341
342 iter = 10
343     cord_individual_obj[indivial_i, :] = [ 0. 8. 134. 142.]
344     cord_individual_obj[indivial_i, :] = [ 1. 10. 131. 141.]
345     cord_individual_obj[indivial_i, :] = [ 2. 9. 124. 133.]
346     cord_individual_obj[indivial_i, :] = [ 3. 9. 128. 137.]
347     cord_individual_obj[indivial_i, :] = [ 4. 8. 128. 136.]
348     cord_individual_obj[indivial_i, :] = [ 5. 9. 108. 117.]
349     cord_individual_obj[indivial_i, :] = [ 6. 9. 111. 120.]
350     cord_individual_obj[indivial_i, :] = [ 7. 9. 61. 70.]
351     cord_individual_obj[indivial_i, :] = [ 8. 9. 120. 129.]
352     cord_individual_obj[indivial_i, :] = [ 9. 11. 122. 133.]
353     cord_individual_obj[indivial_i, :] = [ 10. 7. 162. 169.]
354     cord_individual_obj[indivial_i, :] = [ 11. 12. 116. 128.]
355     cord_individual_obj[indivial_i, :] = [ 12. 14. 168. 182.]
356     cord_individual_obj[indivial_i, :] = [ 13. 8. 132. 140.]
357     cord_individual_obj[indivial_i, :] = [ 14. 12. 114. 126.]
358     cord_individual_obj[indivial_i, :] = [ 15. 10. 92. 102.]
359     cord_individual_obj[indivial_i, :] = [ 16. 9. 98. 107.]
360     cord_individual_obj[indivial_i, :] = [ 17. 10. 107. 117.]
361     cord_individual_obj[indivial_i, :] = [ 18. 9. 121. 130.]
362     cord_individual_obj[indivial_i, :] = [ 19. 9. 147. 156.]
363     cord_individual_obj[indivial_i, :] = [ 20. 10. 161. 171.]
364     cord_individual_obj[indivial_i, :] = [ 21. 11. 109. 120.]
365     cord_individual_obj[indivial_i, :] = [ 22. 9. 92. 101.]
366     cord_individual_obj[indivial_i, :] = [ 23. 10. 112. 122.]
367     cord_individual_obj[indivial_i, :] = [ 24. 10. 108. 118.]
368
369     min(cord_individual_obj[:, 3]) = 70.0
370     historl_G_best_iter[iter, 3] = 70.0
371 Begin iteration:
372
373 iter = 11
374     cord_individual_obj[indivial_i, :] = [ 0. 11. 90. 101.]
375     cord_individual_obj[indivial_i, :] = [ 1. 9. 173. 182.]
376     cord_individual_obj[indivial_i, :] = [ 2. 10. 109. 119.]
377     cord_individual_obj[indivial_i, :] = [ 3. 10. 117. 127.]
378     cord_individual_obj[indivial_i, :] = [ 4. 10. 122. 132.]
379     cord_individual_obj[indivial_i, :] = [ 5. 10. 145. 155.]
380     cord_individual_obj[indivial_i, :] = [ 6. 10. 94. 104.]
381     cord_individual_obj[indivial_i, :] = [ 7. 10. 128. 138.]
382     cord_individual_obj[indivial_i, :] = [ 8. 10. 123. 133.]
383     cord_individual_obj[indivial_i, :] = [ 9. 12. 103. 115.]
384     cord_individual_obj[indivial_i, :] = [ 10. 7. 119. 126.]
385     cord_individual_obj[indivial_i, :] = [ 11. 9. 169. 178.]
386     cord_individual_obj[indivial_i, :] = [ 12. 9. 61. 70.]
387     cord_individual_obj[indivial_i, :] = [ 13. 8. 120. 128.]
388     cord_individual_obj[indivial_i, :] = [ 14. 10. 113. 123.]
389     cord_individual_obj[indivial_i, :] = [ 15. 9. 90. 99.]
390     cord_individual_obj[indivial_i, :] = [ 16. 12. 83. 95.]
391     cord_individual_obj[indivial_i, :] = [ 17. 11. 102. 113.]
392     cord_individual_obj[indivial_i, :] = [ 18. 8. 101. 109.]
393     cord_individual_obj[indivial_i, :] = [ 19. 9. 119. 128.]
394     cord_individual_obj[indivial_i, :] = [ 20. 11. 148. 159.]
395     cord_individual_obj[indivial_i, :] = [ 21. 11. 113. 124.]
396     cord_individual_obj[indivial_i, :] = [ 22. 11. 177. 188.]
397     cord_individual_obj[indivial_i, :] = [ 23. 11. 108. 119.]
398     cord_individual_obj[indivial_i, :] = [ 24. 11. 100. 111.]
399
400     min(cord_individual_obj[:, 3]) = 70.0
401     historl_G_best_iter[iter, 3] = 70.0
402 Begin iteration:
403
404 iter = 12
405     cord_individual_obj[indivial_i, :] = [ 0. 8. 136. 144.]
406     cord_individual_obj[indivial_i, :] = [ 1. 9. 116. 125.]
407     cord_individual_obj[indivial_i, :] = [ 2. 9. 124. 133.]
408     cord_individual_obj[indivial_i, :] = [ 3. 11. 129. 140.]
409     cord_individual_obj[indivial_i, :] = [ 4. 9. 141. 150.]
410     cord_individual_obj[indivial_i, :] = [ 5. 10. 107. 117.]
411     cord_individual_obj[indivial_i, :] = [ 6. 9. 108. 117.]
412     cord_individual_obj[indivial_i, :] = [ 7. 10. 116. 126.]
413     cord_individual_obj[indivial_i, :] = [ 8. 9. 97. 106.]
414     cord_individual_obj[indivial_i, :] = [ 9. 11. 130. 141.]
415     cord_individual_obj[indivial_i, :] = [ 10. 8. 140. 148.]

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416 cord_individual_obj[indivial_i,:] = [ 11. 12. 121. 133.]
417 cord_individual_obj[indivial_i,:] = [ 12. 9. 111. 120.]
418 cord_individual_obj[indivial_i,:] = [ 13. 9. 131. 140.]
419 cord_individual_obj[indivial_i,:] = [ 14. 10. 104. 114.]
420 cord_individual_obj[indivial_i,:] = [ 15. 10. 109. 119.]
421 cord_individual_obj[indivial_i,:] = [ 16. 8. 120. 128.]
422 cord_individual_obj[indivial_i,:] = [ 17. 11. 104. 115.]
423 cord_individual_obj[indivial_i,:] = [ 18. 9. 111. 120.]
424 cord_individual_obj[indivial_i,:] = [ 19. 10. 185. 195.]
425 cord_individual_obj[indivial_i,:] = [ 20. 9. 152. 161.]
426 cord_individual_obj[indivial_i,:] = [ 21. 11. 114. 125.]
427 cord_individual_obj[indivial_i,:] = [ 22. 9. 61. 70.]
428 cord_individual_obj[indivial_i,:] = [ 23. 12. 110. 122.]
429 cord_individual_obj[indivial_i,:] = [ 24. 10. 144. 154.]
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. 145. 153.]
437 cord_individual_obj[indivial_i,:] = [ 1. 10. 109. 119.]
438 cord_individual_obj[indivial_i,:] = [ 2. 9. 94. 103.]
439 cord_individual_obj[indivial_i,:] = [ 3. 11. 127. 138.]
440 cord_individual_obj[indivial_i,:] = [ 4. 8. 124. 132.]
441 cord_individual_obj[indivial_i,:] = [ 5. 10. 120. 130.]
442 cord_individual_obj[indivial_i,:] = [ 6. 10. 115. 125.]
443 cord_individual_obj[indivial_i,:] = [ 7. 9. 109. 118.]
444 cord_individual_obj[indivial_i,:] = [ 8. 8. 127. 135.]
445 cord_individual_obj[indivial_i,:] = [ 9. 11. 105. 116.]
446 cord_individual_obj[indivial_i,:] = [ 10. 9. 134. 143.]
447 cord_individual_obj[indivial_i,:] = [ 11. 12. 115. 127.]
448 cord_individual_obj[indivial_i,:] = [ 12. 11. 92. 103.]
449 cord_individual_obj[indivial_i,:] = [ 13. 9. 94. 103.]
450 cord_individual_obj[indivial_i,:] = [ 14. 8. 112. 120.]
451 cord_individual_obj[indivial_i,:] = [ 15. 8. 96. 104.]
452 cord_individual_obj[indivial_i,:] = [ 16. 11. 91. 102.]
453 cord_individual_obj[indivial_i,:] = [ 17. 9. 109. 118.]
454 cord_individual_obj[indivial_i,:] = [ 18. 9. 132. 141.]
455 cord_individual_obj[indivial_i,:] = [ 19. 9. 61. 70.]
456 cord_individual_obj[indivial_i,:] = [ 20. 10. 150. 160.]
457 cord_individual_obj[indivial_i,:] = [ 21. 11. 105. 116.]
458 cord_individual_obj[indivial_i,:] = [ 22. 10. 159. 169.]
459 cord_individual_obj[indivial_i,:] = [ 23. 11. 101. 112.]
460 cord_individual_obj[indivial_i,:] = [ 24. 10. 105. 115.]
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. 9. 143. 152.]
468 cord_individual_obj[indivial_i,:] = [ 1. 9. 94. 103.]
469 cord_individual_obj[indivial_i,:] = [ 2. 12. 125. 137.]
470 cord_individual_obj[indivial_i,:] = [ 3. 9. 114. 123.]
471 cord_individual_obj[indivial_i,:] = [ 4. 10. 117. 127.]
472 cord_individual_obj[indivial_i,:] = [ 5. 10. 103. 113.]
473 cord_individual_obj[indivial_i,:] = [ 6. 8. 115. 123.]
474 cord_individual_obj[indivial_i,:] = [ 7. 12. 126. 138.]
475 cord_individual_obj[indivial_i,:] = [ 8. 11. 85. 96.]
476 cord_individual_obj[indivial_i,:] = [ 9. 10. 85. 95.]
477 cord_individual_obj[indivial_i,:] = [ 10. 9. 91. 100.]
478 cord_individual_obj[indivial_i,:] = [ 11. 11. 112. 123.]
479 cord_individual_obj[indivial_i,:] = [ 12. 10. 135. 145.]
480 cord_individual_obj[indivial_i,:] = [ 13. 10. 116. 126.]
481 cord_individual_obj[indivial_i,:] = [ 14. 8. 119. 127.]
482 cord_individual_obj[indivial_i,:] = [ 15. 9. 120. 129.]
483 cord_individual_obj[indivial_i,:] = [ 16. 10. 152. 162.]
484 cord_individual_obj[indivial_i,:] = [ 17. 10. 90. 100.]
485 cord_individual_obj[indivial_i,:] = [ 18. 9. 76. 85.]
486 cord_individual_obj[indivial_i,:] = [ 19. 11. 154. 165.]
487 cord_individual_obj[indivial_i,:] = [ 20. 10. 158. 168.]
488 cord_individual_obj[indivial_i,:] = [ 21. 13. 104. 117.]
489 cord_individual_obj[indivial_i,:] = [ 22. 9. 61. 70.]
490 cord_individual_obj[indivial_i,:] = [ 23. 11. 133. 144.]
491 cord_individual_obj[indivial_i,:] = [ 24. 10. 157. 167.]
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. 108. 116.]
499 cord_individual_obj[indivial_i,:] = [ 1. 9. 105. 114.]

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500 cord_individual_obj[indivial_i,:] = [ 2. 10. 119. 129.]
501 cord_individual_obj[indivial_i,:] = [ 3. 9. 65. 74.]
502 cord_individual_obj[indivial_i,:] = [ 4. 10. 104. 114.]
503 cord_individual_obj[indivial_i,:] = [ 5. 11. 90. 101.]
504 cord_individual_obj[indivial_i,:] = [ 6. 10. 86. 96.]
505 cord_individual_obj[indivial_i,:] = [ 7. 11. 137. 148.]
506 cord_individual_obj[indivial_i,:] = [ 8. 11. 98. 109.]
507 cord_individual_obj[indivial_i,:] = [ 9. 11. 83. 94.]
508 cord_individual_obj[indivial_i,:] = [ 10. 9. 100. 109.]
509 cord_individual_obj[indivial_i,:] = [ 11. 11. 98. 109.]
510 cord_individual_obj[indivial_i,:] = [ 12. 9. 108. 117.]
511 cord_individual_obj[indivial_i,:] = [ 13. 8. 116. 124.]
512 cord_individual_obj[indivial_i,:] = [ 14. 10. 84. 94.]
513 cord_individual_obj[indivial_i,:] = [ 15. 9. 167. 176.]
514 cord_individual_obj[indivial_i,:] = [ 16. 9. 112. 121.]
515 cord_individual_obj[indivial_i,:] = [ 17. 11. 127. 138.]
516 cord_individual_obj[indivial_i,:] = [ 18. 10. 129. 139.]
517 cord_individual_obj[indivial_i,:] = [ 19. 11. 139. 150.]
518 cord_individual_obj[indivial_i,:] = [ 20. 9. 61. 70.]
519 cord_individual_obj[indivial_i,:] = [ 21. 11. 99. 110.]
520 cord_individual_obj[indivial_i,:] = [ 22. 10. 162. 172.]
521 cord_individual_obj[indivial_i,:] = [ 23. 11. 111. 122.]
522 cord_individual_obj[indivial_i,:] = [ 24. 11. 89. 100.]
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. 161. 170.]
530 cord_individual_obj[indivial_i,:] = [ 1. 13. 129. 142.]
531 cord_individual_obj[indivial_i,:] = [ 2. 11. 121. 132.]
532 cord_individual_obj[indivial_i,:] = [ 3. 8. 165. 173.]
533 cord_individual_obj[indivial_i,:] = [ 4. 8. 132. 140.]
534 cord_individual_obj[indivial_i,:] = [ 5. 10. 116. 126.]
535 cord_individual_obj[indivial_i,:] = [ 6. 9. 117. 126.]
536 cord_individual_obj[indivial_i,:] = [ 7. 11. 90. 101.]
537 cord_individual_obj[indivial_i,:] = [ 8. 10. 172. 182.]
538 cord_individual_obj[indivial_i,:] = [ 9. 9. 94. 103.]
539 cord_individual_obj[indivial_i,:] = [ 10. 9. 128. 137.]
540 cord_individual_obj[indivial_i,:] = [ 11. 11. 110. 121.]
541 cord_individual_obj[indivial_i,:] = [ 12. 10. 100. 110.]
542 cord_individual_obj[indivial_i,:] = [ 13. 10. 156. 166.]
543 cord_individual_obj[indivial_i,:] = [ 14. 9. 116. 125.]
544 cord_individual_obj[indivial_i,:] = [ 15. 9. 61. 70.]
545 cord_individual_obj[indivial_i,:] = [ 16. 10. 109. 119.]
546 cord_individual_obj[indivial_i,:] = [ 17. 9. 90. 99.]
547 cord_individual_obj[indivial_i,:] = [ 18. 9. 143. 152.]
548 cord_individual_obj[indivial_i,:] = [ 19. 9. 110. 119.]
549 cord_individual_obj[indivial_i,:] = [ 20. 10. 159. 169.]
550 cord_individual_obj[indivial_i,:] = [ 21. 13. 152. 165.]
551 cord_individual_obj[indivial_i,:] = [ 22. 12. 99. 111.]
552 cord_individual_obj[indivial_i,:] = [ 23. 13. 145. 158.]
553 cord_individual_obj[indivial_i,:] = [ 24. 12. 83. 95.]
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. 9. 96. 105.]
561 cord_individual_obj[indivial_i,:] = [ 1. 11. 106. 117.]
562 cord_individual_obj[indivial_i,:] = [ 2. 10. 122. 132.]
563 cord_individual_obj[indivial_i,:] = [ 3. 10. 115. 125.]
564 cord_individual_obj[indivial_i,:] = [ 4. 9. 143. 152.]
565 cord_individual_obj[indivial_i,:] = [ 5. 10. 107. 117.]
566 cord_individual_obj[indivial_i,:] = [ 6. 10. 106. 116.]
567 cord_individual_obj[indivial_i,:] = [ 7. 10. 102. 112.]
568 cord_individual_obj[indivial_i,:] = [ 8. 9. 61. 70.]
569 cord_individual_obj[indivial_i,:] = [ 9. 9. 92. 101.]
570 cord_individual_obj[indivial_i,:] = [ 10. 7. 155. 162.]
571 cord_individual_obj[indivial_i,:] = [ 11. 11. 74. 85.]
572 cord_individual_obj[indivial_i,:] = [ 12. 12. 99. 111.]
573 cord_individual_obj[indivial_i,:] = [ 13. 10. 93. 103.]
574 cord_individual_obj[indivial_i,:] = [ 14. 10. 99. 109.]
575 cord_individual_obj[indivial_i,:] = [ 15. 10. 122. 132.]
576 cord_individual_obj[indivial_i,:] = [ 16. 8. 144. 152.]
577 cord_individual_obj[indivial_i,:] = [ 17. 10. 145. 155.]
578 cord_individual_obj[indivial_i,:] = [ 18. 8. 161. 169.]
579 cord_individual_obj[indivial_i,:] = [ 19. 11. 117. 128.]
580 cord_individual_obj[indivial_i,:] = [ 20. 13. 165. 178.]
581 cord_individual_obj[indivial_i,:] = [ 21. 11. 110. 121.]
582 cord_individual_obj[indivial_i,:] = [ 22. 13. 146. 159.]
583 cord_individual_obj[indivial_i,:] = [ 23. 10. 85. 95.]

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584     cord_individual_obj[indivial_i, :] = [ 24. 12. 91. 103.]
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. 9. 87. 96.]
592     cord_individual_obj[indivial_i, :] = [ 1. 11. 104. 115.]
593     cord_individual_obj[indivial_i, :] = [ 2. 10. 110. 120.]
594     cord_individual_obj[indivial_i, :] = [ 3. 9. 122. 131.]
595     cord_individual_obj[indivial_i, :] = [ 4. 9. 84. 93.]
596     cord_individual_obj[indivial_i, :] = [ 5. 9. 132. 141.]
597     cord_individual_obj[indivial_i, :] = [ 6. 9. 90. 99.]
598     cord_individual_obj[indivial_i, :] = [ 7. 9. 155. 164.]
599     cord_individual_obj[indivial_i, :] = [ 8. 10. 107. 117.]
600     cord_individual_obj[indivial_i, :] = [ 9. 8. 79. 87.]
601     cord_individual_obj[indivial_i, :] = [ 10. 8. 103. 111.]
602     cord_individual_obj[indivial_i, :] = [ 11. 11. 145. 156.]
603     cord_individual_obj[indivial_i, :] = [ 12. 11. 78. 89.]
604     cord_individual_obj[indivial_i, :] = [ 13. 8. 103. 111.]
605     cord_individual_obj[indivial_i, :] = [ 14. 8. 124. 132.]
606     cord_individual_obj[indivial_i, :] = [ 15. 9. 111. 120.]
607     cord_individual_obj[indivial_i, :] = [ 16. 9. 123. 132.]
608     cord_individual_obj[indivial_i, :] = [ 17. 10. 100. 110.]
609     cord_individual_obj[indivial_i, :] = [ 18. 9. 114. 123.]
610     cord_individual_obj[indivial_i, :] = [ 19. 9. 118. 127.]
611     cord_individual_obj[indivial_i, :] = [ 20. 9. 61. 70.]
612     cord_individual_obj[indivial_i, :] = [ 21. 12. 126. 138.]
613     cord_individual_obj[indivial_i, :] = [ 22. 10. 131. 141.]
614     cord_individual_obj[indivial_i, :] = [ 23. 10. 101. 111.]
615     cord_individual_obj[indivial_i, :] = [ 24. 10. 85. 95.]
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. 9. 81. 90.]
623     cord_individual_obj[indivial_i, :] = [ 1. 11. 96. 107.]
624     cord_individual_obj[indivial_i, :] = [ 2. 9. 121. 130.]
625     cord_individual_obj[indivial_i, :] = [ 3. 10. 121. 131.]
626     cord_individual_obj[indivial_i, :] = [ 4. 9. 96. 105.]
627     cord_individual_obj[indivial_i, :] = [ 5. 9. 146. 155.]
628     cord_individual_obj[indivial_i, :] = [ 6. 9. 131. 140.]
629     cord_individual_obj[indivial_i, :] = [ 7. 9. 61. 70.]
630     cord_individual_obj[indivial_i, :] = [ 8. 10. 135. 145.]
631     cord_individual_obj[indivial_i, :] = [ 9. 9. 112. 121.]
632     cord_individual_obj[indivial_i, :] = [ 10. 8. 114. 122.]
633     cord_individual_obj[indivial_i, :] = [ 11. 10. 73. 83.]
634     cord_individual_obj[indivial_i, :] = [ 12. 11. 95. 106.]
635     cord_individual_obj[indivial_i, :] = [ 13. 8. 106. 114.]
636     cord_individual_obj[indivial_i, :] = [ 14. 9. 108. 117.]
637     cord_individual_obj[indivial_i, :] = [ 15. 9. 138. 147.]
638     cord_individual_obj[indivial_i, :] = [ 16. 9. 86. 95.]
639     cord_individual_obj[indivial_i, :] = [ 17. 10. 144. 154.]
640     cord_individual_obj[indivial_i, :] = [ 18. 11. 161. 172.]
641     cord_individual_obj[indivial_i, :] = [ 19. 10. 101. 111.]
642     cord_individual_obj[indivial_i, :] = [ 20. 11. 154. 165.]
643     cord_individual_obj[indivial_i, :] = [ 21. 11. 92. 103.]
644     cord_individual_obj[indivial_i, :] = [ 22. 12. 116. 128.]
645     cord_individual_obj[indivial_i, :] = [ 23. 10. 80. 90.]
646     cord_individual_obj[indivial_i, :] = [ 24. 11. 128. 139.]
647
648     min(cord_individual_obj[:, 3]) = 70.0
649     historl_G_best_iter[iter, 3] = 70.0
650 Begin iteration:
651
652 iter = 20
653     cord_individual_obj[indivial_i, :] = [ 0. 10. 138. 148.]
654     cord_individual_obj[indivial_i, :] = [ 1. 8. 109. 117.]
655     cord_individual_obj[indivial_i, :] = [ 2. 10. 135. 145.]
656     cord_individual_obj[indivial_i, :] = [ 3. 9. 69. 78.]
657     cord_individual_obj[indivial_i, :] = [ 4. 9. 133. 142.]
658     cord_individual_obj[indivial_i, :] = [ 5. 10. 80. 90.]
659     cord_individual_obj[indivial_i, :] = [ 6. 10. 116. 126.]
660     cord_individual_obj[indivial_i, :] = [ 7. 10. 128. 138.]
661     cord_individual_obj[indivial_i, :] = [ 8. 9. 132. 141.]
662     cord_individual_obj[indivial_i, :] = [ 9. 12. 129. 141.]
663     cord_individual_obj[indivial_i, :] = [ 10. 9. 154. 163.]
664     cord_individual_obj[indivial_i, :] = [ 11. 11. 60. 71.]
665     cord_individual_obj[indivial_i, :] = [ 12. 11. 95. 106.]
666     cord_individual_obj[indivial_i, :] = [ 13. 9. 67. 76.]
667     cord_individual_obj[indivial_i, :] = [ 14. 9. 105. 114.]

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668 cord_individual_obj[indivial_i,:] = [15, 10, 85, 95.]
669 cord_individual_obj[indivial_i,:] = [16, 9, 101, 110.]
670 cord_individual_obj[indivial_i,:] = [17, 12, 137, 149.]
671 cord_individual_obj[indivial_i,:] = [18, 9, 61, 70.]
672 cord_individual_obj[indivial_i,:] = [19, 11, 150, 161.]
673 cord_individual_obj[indivial_i,:] = [20, 11, 136, 147.]
674 cord_individual_obj[indivial_i,:] = [21, 9, 108, 117.]
675 cord_individual_obj[indivial_i,:] = [22, 13, 143, 156.]
676 cord_individual_obj[indivial_i,:] = [23, 10, 114, 124.]
677 cord_individual_obj[indivial_i,:] = [24, 10, 104, 114.]
678
679 min(cord_individual_obj[:, 3]) = 70.0
680 historl_G_best_iter[iter, 3] = 70.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 243.0
689 Proportion_of_area = 0.225
690 BEST_CHROM =
691 berth: [ 1.5 3. 4. 16.5 11.5 12. 21.5 18. 25.5 4.5 14. 3.5 26. 25.5
692 18.5 9.5 8.5]
693 time: [ 1. 4. 0. 3. 7. 0. 4. 7. 2. 1. 2. 6. 4. 0. 0. 3. 1.]
694 num_QC: [ 3. 4. 6. 2. 3. 4. 1. 2. 4. 2. 3. 4. 2. 3. 3. 4. 3.]
695 Objective function values and some other indicators:
696 Obj0 = 9.00 Obj1 = 61.00 Obj0 + Obj1 = 70.00
697 Total movement of crane: 16.00
698 Total waiting time in berth position: 45.00
699 Total index of q during berthing: 949.00
700 Specific arrangement for each vessel:
701 V_id: 0 li: 3.0 xi: 1.5 bow of i: 0.0 tail of i: 3.0 gama_i0: 1.0 gama_i1: 3.0
702 160.0 work load gap_i: 0 gama_i1 + 1: 4.0 gama_i1 - gama_i0: 2.0 duration_time_i: 3.0 demand_i: 160.0 work load_i:
703 V_id: 1 li: 6.0 xi: 3.0 bow of i: 0.0 tail of i: 6.0 gama_i0: 4.0 gama_i1: 5.0
704 120.0 work load gap_i: 0 gama_i1 + 1: 6.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 120.0 work load_i:
705 V_id: 2 li: 8.0 xi: 4.0 bow of i: 0.0 tail of i: 8.0 gama_i0: 0.0 gama_i1: 0.0
706 100.0 work load gap_i: 0 gama_i1 + 1: 1.0 gama_i1 - gama_i0: 0.0 duration_time_i: 1.0 demand_i: 100.0 work load_i:
707 V_id: 3 li: 7.0 xi: 16.5 bow of i: 13.0 tail of i: 20.0 gama_i0: 3.0 gama_i1: 6
708 .0 work load gap_i: 0 gama_i1 + 1: 7.0 gama_i1 - gama_i0: 3.0 duration_time_i: 4.0 demand_i: 140.0 work
709 V_id: 4 li: 9.0 xi: 11.5 bow of i: 7.0 tail of i: 16.0 gama_i0: 7.0 gama_i1: 9
710 .0 work load gap_i: 0 gama_i1 + 1: 10.0 gama_i1 - gama_i0: 2.0 duration_time_i: 3.0 demand_i: 160.0 work
711 V_id: 5 li: 8.0 xi: 12.0 bow of i: 8.0 tail of i: 16.0 gama_i0: 0.0 gama_i1: 0
712 .0 work load gap_i: 0 gama_i1 + 1: 1.0 gama_i1 - gama_i0: 0.0 duration_time_i: 1.0 demand_i: 80.0 work
713 V_id: 6 li: 3.0 xi: 21.5 bow of i: 20.0 tail of i: 23.0 gama_i0: 4.0 gama_i1: 6
714 .0 work load gap_i: 0 gama_i1 + 1: 7.0 gama_i1 - gama_i0: 2.0 duration_time_i: 3.0 demand_i: 60.0 work
715 V_id: 7 li: 4.0 xi: 18.0 bow of i: 16.0 tail of i: 20.0 gama_i0: 7.0 gama_i1: 8
716 .0 work load gap_i: 0 gama_i1 + 1: 9.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 80.0 work
717 V_id: 8 li: 9.0 xi: 25.5 bow of i: 21.0 tail of i: 30.0 gama_i0: 2.0 gama_i1: 3
718 .0 work load gap_i: 0 gama_i1 + 1: 4.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 100.0 work
719 V_id: 9 li: 3.0 xi: 4.5 bow of i: 3.0 tail of i: 6.0 gama_i0: 1.0 gama_i1: 3.0
720 100.0 work load gap_i: 0 gama_i1 + 1: 4.0 gama_i1 - gama_i0: 2.0 duration_time_i: 3.0 demand_i: 100.0 work load_i:
721 V_id: 10 li: 6.0 xi: 14.0 bow of i: 11.0 tail of i: 17.0 gama_i0: 2.0 gama_i1: 1
722 : 2.0 work load gap_i: 0 gama_i1 + 1: 3.0 gama_i1 - gama_i0: 0.0 duration_time_i: 1.0 demand_i: 60.0 work
723 V_id: 11 li: 7.0 xi: 3.5 bow of i: 0.0 tail of i: 7.0 gama_i0: 6.0 gama_i1: 7.0
724 100.0 work load gap_i: 0 gama_i1 + 1: 8.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 100.0 work load_i:
725 V_id: 12 li: 6.0 xi: 26.0 bow of i: 23.0 tail of i: 29.0 gama_i0: 4.0 gama_i1: 1
726 : 7.0 work load gap_i: 0 gama_i1 + 1: 8.0 gama_i1 - gama_i0: 3.0 duration_time_i: 4.0 demand_i: 140.0 work
727 V_id: 13 li: 9.0 xi: 25.5 bow of i: 21.0 tail of i: 30.0 gama_i0: 0.0 gama_i1: 1
728 : 1.0 work load gap_i: 0 gama_i1 + 1: 2.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 120.0 work
729 V_id: 14 li: 5.0 xi: 18.5 bow of i: 16.0 tail of i: 21.0 gama_i0: 0.0 gama_i1: 1
730 : 1.0 work load gap_i: 0 gama_i1 + 1: 2.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 120.0 work
731 V_id: 15 li: 7.0 xi: 9.5 bow of i: 6.0 tail of i: 13.0 gama_i0: 3.0 gama_i1: 4
732 .0 work load gap_i: 0 gama_i1 + 1: 5.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 100.0 work
733 V_id: 16 li: 5.0 xi: 8.5 bow of i: 6.0 tail of i: 11.0 gama_i0: 1.0 gama_i1: 2
734 .0 work load gap_i: 0 gama_i1 + 1: 3.0 gama_i1 - gama_i0: 1.0 duration_time_i: 2.0 demand_i: 80.0 work

```

unknown

```
718  
719 Algorithm finished and the total CPU time: 911 s  
720 End  
721
```