

unknown

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80 cord_individual_obj[indivial_i,:] = [16. 9. 64. 73.]
81 cord_individual_obj[indivial_i,:] = [17. 8. 131. 139.]
82 cord_individual_obj[indivial_i,:] = [18. 10. 166. 176.]
83 cord_individual_obj[indivial_i,:] = [19. 8. 146. 154.]
84 cord_individual_obj[indivial_i,:] = [20. 13. 125. 138.]
85 cord_individual_obj[indivial_i,:] = [21. 11. 129. 140.]
86 cord_individual_obj[indivial_i,:] = [22. 9. 104. 113.]
87 cord_individual_obj[indivial_i,:] = [23. 7. 173. 180.]
88 cord_individual_obj[indivial_i,:] = [24. 8. 83. 91.]
89
90 min(cord_individual_obj[:,3]) = 73.0
91 historl_G_best_iter[iter, 3] = 73.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [0. 8. 86. 94.]
96 cord_individual_obj[indivial_i,:] = [1. 9. 140. 149.]
97 cord_individual_obj[indivial_i,:] = [2. 10. 182. 192.]
98 cord_individual_obj[indivial_i,:] = [3. 9. 113. 122.]
99 cord_individual_obj[indivial_i,:] = [4. 8. 107. 115.]
100 cord_individual_obj[indivial_i,:] = [5. 9. 142. 151.]
101 cord_individual_obj[indivial_i,:] = [6. 9. 152. 161.]
102 cord_individual_obj[indivial_i,:] = [7. 10. 97. 107.]
103 cord_individual_obj[indivial_i,:] = [8. 10. 99. 109.]
104 cord_individual_obj[indivial_i,:] = [9. 8. 60. 68.]
105 cord_individual_obj[indivial_i,:] = [10. 10. 119. 129.]
106 cord_individual_obj[indivial_i,:] = [11. 9. 83. 92.]
107 cord_individual_obj[indivial_i,:] = [12. 9. 105. 114.]
108 cord_individual_obj[indivial_i,:] = [13. 8. 94. 102.]
109 cord_individual_obj[indivial_i,:] = [14. 9. 143. 152.]
110 cord_individual_obj[indivial_i,:] = [15. 9. 125. 134.]
111 cord_individual_obj[indivial_i,:] = [16. 10. 129. 139.]
112 cord_individual_obj[indivial_i,:] = [17. 10. 187. 197.]
113 cord_individual_obj[indivial_i,:] = [18. 9. 137. 146.]
114 cord_individual_obj[indivial_i,:] = [19. 7. 205. 212.]
115 cord_individual_obj[indivial_i,:] = [20. 8. 175. 183.]
116 cord_individual_obj[indivial_i,:] = [21. 9. 70. 79.]
117 cord_individual_obj[indivial_i,:] = [22. 9. 195. 204.]
118 cord_individual_obj[indivial_i,:] = [23. 9. 64. 73.]
119 cord_individual_obj[indivial_i,:] = [24. 9. 113. 122.]
120
121 min(cord_individual_obj[:,3]) = 68.0
122 historl_G_best_iter[iter, 3] = 68.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [0. 9. 130. 139.]
127 cord_individual_obj[indivial_i,:] = [1. 8. 99. 107.]
128 cord_individual_obj[indivial_i,:] = [2. 8. 74. 82.]
129 cord_individual_obj[indivial_i,:] = [3. 8. 107. 115.]
130 cord_individual_obj[indivial_i,:] = [4. 9. 117. 126.]
131 cord_individual_obj[indivial_i,:] = [5. 9. 165. 174.]
132 cord_individual_obj[indivial_i,:] = [6. 10. 134. 144.]
133 cord_individual_obj[indivial_i,:] = [7. 8. 88. 96.]
134 cord_individual_obj[indivial_i,:] = [8. 9. 105. 114.]
135 cord_individual_obj[indivial_i,:] = [9. 8. 143. 151.]
136 cord_individual_obj[indivial_i,:] = [10. 10. 105. 115.]
137 cord_individual_obj[indivial_i,:] = [11. 10. 146. 156.]
138 cord_individual_obj[indivial_i,:] = [12. 10. 160. 170.]
139 cord_individual_obj[indivial_i,:] = [13. 7. 136. 143.]
140 cord_individual_obj[indivial_i,:] = [14. 8. 110. 118.]
141 cord_individual_obj[indivial_i,:] = [15. 8. 145. 153.]
142 cord_individual_obj[indivial_i,:] = [16. 9. 87. 96.]
143 cord_individual_obj[indivial_i,:] = [17. 10. 156. 166.]
144 cord_individual_obj[indivial_i,:] = [18. 9. 79. 88.]
145 cord_individual_obj[indivial_i,:] = [19. 8. 60. 68.]
146 cord_individual_obj[indivial_i,:] = [20. 8. 96. 104.]
147 cord_individual_obj[indivial_i,:] = [21. 8. 58. 66.]
148 cord_individual_obj[indivial_i,:] = [22. 9. 133. 142.]
149 cord_individual_obj[indivial_i,:] = [23. 9. 109. 118.]
150 cord_individual_obj[indivial_i,:] = [24. 9. 89. 98.]
151
152 min(cord_individual_obj[:,3]) = 66.0
153 historl_G_best_iter[iter, 3] = 66.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [0. 10. 129. 139.]
158 cord_individual_obj[indivial_i,:] = [1. 10. 134. 144.]
159 cord_individual_obj[indivial_i,:] = [2. 10. 152. 162.]
160 cord_individual_obj[indivial_i,:] = [3. 7. 175. 182.]
161 cord_individual_obj[indivial_i,:] = [4. 10. 144. 154.]
162 cord_individual_obj[indivial_i,:] = [5. 8. 58. 66.]
163 cord_individual_obj[indivial_i,:] = [6. 10. 128. 138.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 7. 126. 133.]
165 cord_individual_obj[indivial_i,:] = [ 8. 9. 123. 132.]
166 cord_individual_obj[indivial_i,:] = [ 9. 7. 105. 112.]
167 cord_individual_obj[indivial_i,:] = [ 10. 13. 135. 148.]
168 cord_individual_obj[indivial_i,:] = [ 11. 13. 179. 192.]
169 cord_individual_obj[indivial_i,:] = [ 12. 8. 105. 113.]
170 cord_individual_obj[indivial_i,:] = [ 13. 8. 123. 131.]
171 cord_individual_obj[indivial_i,:] = [ 14. 9. 180. 189.]
172 cord_individual_obj[indivial_i,:] = [ 15. 8. 109. 117.]
173 cord_individual_obj[indivial_i,:] = [ 16. 10. 158. 168.]
174 cord_individual_obj[indivial_i,:] = [ 17. 11. 84. 95.]
175 cord_individual_obj[indivial_i,:] = [ 18. 10. 107. 117.]
176 cord_individual_obj[indivial_i,:] = [ 19. 8. 119. 127.]
177 cord_individual_obj[indivial_i,:] = [ 20. 9. 130. 139.]
178 cord_individual_obj[indivial_i,:] = [ 21. 9. 130. 139.]
179 cord_individual_obj[indivial_i,:] = [ 22. 11. 128. 139.]
180 cord_individual_obj[indivial_i,:] = [ 23. 9. 76. 85.]
181 cord_individual_obj[indivial_i,:] = [ 24. 7. 92. 99.]
182
183 min(cord_individual_obj[:,3]) = 66.0
184 historl_G_best_iter[iter,3] = 66.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 11. 151. 162.]
189 cord_individual_obj[indivial_i,:] = [ 1. 8. 190. 198.]
190 cord_individual_obj[indivial_i,:] = [ 2. 9. 142. 151.]
191 cord_individual_obj[indivial_i,:] = [ 3. 9. 98. 107.]
192 cord_individual_obj[indivial_i,:] = [ 4. 8. 226. 234.]
193 cord_individual_obj[indivial_i,:] = [ 5. 8. 143. 151.]
194 cord_individual_obj[indivial_i,:] = [ 6. 9. 133. 142.]
195 cord_individual_obj[indivial_i,:] = [ 7. 9. 111. 120.]
196 cord_individual_obj[indivial_i,:] = [ 8. 9. 123. 132.]
197 cord_individual_obj[indivial_i,:] = [ 9. 8. 144. 152.]
198 cord_individual_obj[indivial_i,:] = [ 10. 9. 118. 127.]
199 cord_individual_obj[indivial_i,:] = [ 11. 8. 58. 66.]
200 cord_individual_obj[indivial_i,:] = [ 12. 10. 137. 147.]
201 cord_individual_obj[indivial_i,:] = [ 13. 8. 88. 96.]
202 cord_individual_obj[indivial_i,:] = [ 14. 10. 133. 143.]
203 cord_individual_obj[indivial_i,:] = [ 15. 9. 82. 91.]
204 cord_individual_obj[indivial_i,:] = [ 16. 8. 132. 140.]
205 cord_individual_obj[indivial_i,:] = [ 17. 10. 124. 134.]
206 cord_individual_obj[indivial_i,:] = [ 18. 9. 134. 143.]
207 cord_individual_obj[indivial_i,:] = [ 19. 9. 148. 157.]
208 cord_individual_obj[indivial_i,:] = [ 20. 9. 147. 156.]
209 cord_individual_obj[indivial_i,:] = [ 21. 8. 94. 102.]
210 cord_individual_obj[indivial_i,:] = [ 22. 8. 157. 165.]
211 cord_individual_obj[indivial_i,:] = [ 23. 9. 132. 141.]
212 cord_individual_obj[indivial_i,:] = [ 24. 8. 106. 114.]
213
214 min(cord_individual_obj[:,3]) = 66.0
215 historl_G_best_iter[iter,3] = 66.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 10. 89. 99.]
220 cord_individual_obj[indivial_i,:] = [ 1. 7. 107. 114.]
221 cord_individual_obj[indivial_i,:] = [ 2. 9. 176. 185.]
222 cord_individual_obj[indivial_i,:] = [ 3. 9. 104. 113.]
223 cord_individual_obj[indivial_i,:] = [ 4. 8. 58. 66.]
224 cord_individual_obj[indivial_i,:] = [ 5. 7. 92. 99.]
225 cord_individual_obj[indivial_i,:] = [ 6. 8. 214. 222.]
226 cord_individual_obj[indivial_i,:] = [ 7. 11. 186. 197.]
227 cord_individual_obj[indivial_i,:] = [ 8. 9. 110. 119.]
228 cord_individual_obj[indivial_i,:] = [ 9. 9. 96. 105.]
229 cord_individual_obj[indivial_i,:] = [ 10. 10. 128. 138.]
230 cord_individual_obj[indivial_i,:] = [ 11. 9. 189. 198.]
231 cord_individual_obj[indivial_i,:] = [ 12. 9. 173. 182.]
232 cord_individual_obj[indivial_i,:] = [ 13. 8. 156. 164.]
233 cord_individual_obj[indivial_i,:] = [ 14. 11. 150. 161.]
234 cord_individual_obj[indivial_i,:] = [ 15. 10. 122. 132.]
235 cord_individual_obj[indivial_i,:] = [ 16. 9. 84. 93.]
236 cord_individual_obj[indivial_i,:] = [ 17. 10. 99. 109.]
237 cord_individual_obj[indivial_i,:] = [ 18. 11. 126. 137.]
238 cord_individual_obj[indivial_i,:] = [ 19. 9. 153. 162.]
239 cord_individual_obj[indivial_i,:] = [ 20. 10. 149. 159.]
240 cord_individual_obj[indivial_i,:] = [ 21. 10. 110. 120.]
241 cord_individual_obj[indivial_i,:] = [ 22. 9. 86. 95.]
242 cord_individual_obj[indivial_i,:] = [ 23. 9. 121. 130.]
243 cord_individual_obj[indivial_i,:] = [ 24. 8. 172. 180.]
244
245 min(cord_individual_obj[:,3]) = 66.0
246 historl_G_best_iter[iter,3] = 66.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0.  7. 101. 108.]
251 cord_individual_obj[indivial_i, :] = [ 1.  8. 171. 179.]
252 cord_individual_obj[indivial_i, :] = [ 2.  7. 105. 112.]
253 cord_individual_obj[indivial_i, :] = [ 3.  8. 140. 148.]
254 cord_individual_obj[indivial_i, :] = [ 4.  10. 136. 146.]
255 cord_individual_obj[indivial_i, :] = [ 5.  8. 259. 267.]
256 cord_individual_obj[indivial_i, :] = [ 6.  8. 58. 66.]
257 cord_individual_obj[indivial_i, :] = [ 7.  8. 114. 122.]
258 cord_individual_obj[indivial_i, :] = [ 8.  9. 102. 111.]
259 cord_individual_obj[indivial_i, :] = [ 9.  8. 78. 86.]
260 cord_individual_obj[indivial_i, :] = [ 10. 9. 109. 118.]
261 cord_individual_obj[indivial_i, :] = [ 11. 10. 117. 127.]
262 cord_individual_obj[indivial_i, :] = [ 12. 9. 162. 171.]
263 cord_individual_obj[indivial_i, :] = [ 13. 8. 142. 150.]
264 cord_individual_obj[indivial_i, :] = [ 14. 9. 79. 88.]
265 cord_individual_obj[indivial_i, :] = [ 15. 11. 159. 170.]
266 cord_individual_obj[indivial_i, :] = [ 16. 8. 120. 128.]
267 cord_individual_obj[indivial_i, :] = [ 17. 10. 91. 101.]
268 cord_individual_obj[indivial_i, :] = [ 18. 10. 125. 135.]
269 cord_individual_obj[indivial_i, :] = [ 19. 8. 142. 150.]
270 cord_individual_obj[indivial_i, :] = [ 20. 7. 99. 106.]
271 cord_individual_obj[indivial_i, :] = [ 21. 7. 156. 163.]
272 cord_individual_obj[indivial_i, :] = [ 22. 7. 143. 150.]
273 cord_individual_obj[indivial_i, :] = [ 23. 9. 112. 121.]
274 cord_individual_obj[indivial_i, :] = [ 24. 8. 70. 78.]
275
276 min(cord_individual_obj[:, 3]) = 66.0
277 historl_G_best_iter[iter, 3] = 66.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0.  9. 87. 96.]
282 cord_individual_obj[indivial_i, :] = [ 1.  8. 111. 119.]
283 cord_individual_obj[indivial_i, :] = [ 2. 11. 164. 175.]
284 cord_individual_obj[indivial_i, :] = [ 3. 10. 138. 148.]
285 cord_individual_obj[indivial_i, :] = [ 4. 9. 151. 160.]
286 cord_individual_obj[indivial_i, :] = [ 5. 8. 58. 66.]
287 cord_individual_obj[indivial_i, :] = [ 6. 8. 167. 175.]
288 cord_individual_obj[indivial_i, :] = [ 7. 9. 96. 105.]
289 cord_individual_obj[indivial_i, :] = [ 8. 12. 125. 137.]
290 cord_individual_obj[indivial_i, :] = [ 9. 9. 153. 162.]
291 cord_individual_obj[indivial_i, :] = [ 10. 13. 102. 115.]
292 cord_individual_obj[indivial_i, :] = [ 11. 9. 98. 107.]
293 cord_individual_obj[indivial_i, :] = [ 12. 9. 106. 115.]
294 cord_individual_obj[indivial_i, :] = [ 13. 11. 109. 120.]
295 cord_individual_obj[indivial_i, :] = [ 14. 9. 119. 128.]
296 cord_individual_obj[indivial_i, :] = [ 15. 10. 132. 142.]
297 cord_individual_obj[indivial_i, :] = [ 16. 8. 166. 174.]
298 cord_individual_obj[indivial_i, :] = [ 17. 8. 149. 157.]
299 cord_individual_obj[indivial_i, :] = [ 18. 9. 76. 85.]
300 cord_individual_obj[indivial_i, :] = [ 19. 8. 104. 112.]
301 cord_individual_obj[indivial_i, :] = [ 20. 9. 111. 120.]
302 cord_individual_obj[indivial_i, :] = [ 21. 8. 114. 122.]
303 cord_individual_obj[indivial_i, :] = [ 22. 13. 154. 167.]
304 cord_individual_obj[indivial_i, :] = [ 23. 9. 97. 106.]
305 cord_individual_obj[indivial_i, :] = [ 24. 7. 95. 102.]
306
307 min(cord_individual_obj[:, 3]) = 66.0
308 historl_G_best_iter[iter, 3] = 66.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0. 10. 79. 89.]
313 cord_individual_obj[indivial_i, :] = [ 1. 7. 126. 133.]
314 cord_individual_obj[indivial_i, :] = [ 2. 8. 58. 66.]
315 cord_individual_obj[indivial_i, :] = [ 3. 8. 159. 167.]
316 cord_individual_obj[indivial_i, :] = [ 4. 9. 144. 153.]
317 cord_individual_obj[indivial_i, :] = [ 5. 9. 144. 153.]
318 cord_individual_obj[indivial_i, :] = [ 6. 9. 170. 179.]
319 cord_individual_obj[indivial_i, :] = [ 7. 9. 157. 166.]
320 cord_individual_obj[indivial_i, :] = [ 8. 13. 160. 173.]
321 cord_individual_obj[indivial_i, :] = [ 9. 11. 124. 135.]
322 cord_individual_obj[indivial_i, :] = [ 10. 10. 97. 107.]
323 cord_individual_obj[indivial_i, :] = [ 11. 7. 145. 152.]
324 cord_individual_obj[indivial_i, :] = [ 12. 10. 109. 119.]
325 cord_individual_obj[indivial_i, :] = [ 13. 8. 138. 146.]
326 cord_individual_obj[indivial_i, :] = [ 14. 10. 95. 105.]
327 cord_individual_obj[indivial_i, :] = [ 15. 8. 125. 133.]
328 cord_individual_obj[indivial_i, :] = [ 16. 10. 115. 125.]
329 cord_individual_obj[indivial_i, :] = [ 17. 9. 131. 140.]
330 cord_individual_obj[indivial_i, :] = [ 18. 7. 105. 112.]
331 cord_individual_obj[indivial_i, :] = [ 19. 8. 114. 122.]

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332     cord_individual_obj[indivial_i, :] = [ 20.  8. 96. 104.]
333     cord_individual_obj[indivial_i, :] = [ 21.  8. 180. 188.]
334     cord_individual_obj[indivial_i, :] = [ 22.  9. 114. 123.]
335     cord_individual_obj[indivial_i, :] = [ 23.  9. 96. 105.]
336     cord_individual_obj[indivial_i, :] = [ 24.  8. 113. 121.]
337
338 min(cord_individual_obj[:, 3]) = 66.0
339 histol_G_best_iter[iter, 3] = 66.0
340 Begin iteration:
341
342 iter = 10
343     cord_individual_obj[indivial_i, :] = [ 0. 11. 81. 92.]
344     cord_individual_obj[indivial_i, :] = [ 1. 9. 81. 90.]
345     cord_individual_obj[indivial_i, :] = [ 2. 9. 127. 136.]
346     cord_individual_obj[indivial_i, :] = [ 3. 9. 129. 138.]
347     cord_individual_obj[indivial_i, :] = [ 4. 9. 63. 72.]
348     cord_individual_obj[indivial_i, :] = [ 5. 9. 105. 114.]
349     cord_individual_obj[indivial_i, :] = [ 6. 11. 154. 165.]
350     cord_individual_obj[indivial_i, :] = [ 7. 8. 107. 115.]
351     cord_individual_obj[indivial_i, :] = [ 8. 9. 79. 88.]
352     cord_individual_obj[indivial_i, :] = [ 9. 11. 90. 101.]
353     cord_individual_obj[indivial_i, :] = [10. 9. 65. 74.]
354     cord_individual_obj[indivial_i, :] = [11. 11. 97. 108.]
355     cord_individual_obj[indivial_i, :] = [12. 9. 122. 131.]
356     cord_individual_obj[indivial_i, :] = [13. 10. 119. 129.]
357     cord_individual_obj[indivial_i, :] = [14. 9. 143. 152.]
358     cord_individual_obj[indivial_i, :] = [15. 7. 78. 85.]
359     cord_individual_obj[indivial_i, :] = [16. 8. 168. 176.]
360     cord_individual_obj[indivial_i, :] = [17. 8. 133. 141.]
361     cord_individual_obj[indivial_i, :] = [18. 13. 83. 96.]
362     cord_individual_obj[indivial_i, :] = [19. 9. 110. 119.]
363     cord_individual_obj[indivial_i, :] = [20. 9. 95. 104.]
364     cord_individual_obj[indivial_i, :] = [21. 8. 58. 66.]
365     cord_individual_obj[indivial_i, :] = [22. 10. 143. 153.]
366     cord_individual_obj[indivial_i, :] = [23. 9. 80. 89.]
367     cord_individual_obj[indivial_i, :] = [24. 8. 98. 106.]
368
369 min(cord_individual_obj[:, 3]) = 66.0
370 histol_G_best_iter[iter, 3] = 66.0
371 Begin iteration:
372
373 iter = 11
374     cord_individual_obj[indivial_i, :] = [ 0. 12. 67. 79.]
375     cord_individual_obj[indivial_i, :] = [ 1. 8. 135. 143.]
376     cord_individual_obj[indivial_i, :] = [ 2. 8. 120. 128.]
377     cord_individual_obj[indivial_i, :] = [ 3. 11. 148. 159.]
378     cord_individual_obj[indivial_i, :] = [ 4. 10. 146. 156.]
379     cord_individual_obj[indivial_i, :] = [ 5. 8. 93. 101.]
380     cord_individual_obj[indivial_i, :] = [ 6. 11. 114. 125.]
381     cord_individual_obj[indivial_i, :] = [ 7. 8. 94. 102.]
382     cord_individual_obj[indivial_i, :] = [ 8. 9. 104. 113.]
383     cord_individual_obj[indivial_i, :] = [ 9. 8. 132. 140.]
384     cord_individual_obj[indivial_i, :] = [10. 9. 118. 127.]
385     cord_individual_obj[indivial_i, :] = [11. 9. 199. 208.]
386     cord_individual_obj[indivial_i, :] = [12. 10. 69. 79.]
387     cord_individual_obj[indivial_i, :] = [13. 8. 205. 213.]
388     cord_individual_obj[indivial_i, :] = [14. 11. 108. 119.]
389     cord_individual_obj[indivial_i, :] = [15. 8. 81. 89.]
390     cord_individual_obj[indivial_i, :] = [16. 8. 58. 66.]
391     cord_individual_obj[indivial_i, :] = [17. 8. 180. 188.]
392     cord_individual_obj[indivial_i, :] = [18. 8. 131. 139.]
393     cord_individual_obj[indivial_i, :] = [19. 10. 153. 163.]
394     cord_individual_obj[indivial_i, :] = [20. 9. 121. 130.]
395     cord_individual_obj[indivial_i, :] = [21. 8. 70. 78.]
396     cord_individual_obj[indivial_i, :] = [22. 8. 101. 109.]
397     cord_individual_obj[indivial_i, :] = [23. 8. 108. 116.]
398     cord_individual_obj[indivial_i, :] = [24. 7. 77. 84.]
399
400 min(cord_individual_obj[:, 3]) = 66.0
401 histol_G_best_iter[iter, 3] = 66.0
402 Begin iteration:
403
404 iter = 12
405     cord_individual_obj[indivial_i, :] = [ 0. 10. 100. 110.]
406     cord_individual_obj[indivial_i, :] = [ 1. 7. 170. 177.]
407     cord_individual_obj[indivial_i, :] = [ 2. 11. 130. 141.]
408     cord_individual_obj[indivial_i, :] = [ 3. 8. 143. 151.]
409     cord_individual_obj[indivial_i, :] = [ 4. 9. 134. 143.]
410     cord_individual_obj[indivial_i, :] = [ 5. 9. 95. 104.]
411     cord_individual_obj[indivial_i, :] = [ 6. 9. 128. 137.]
412     cord_individual_obj[indivial_i, :] = [ 7. 11. 89. 100.]
413     cord_individual_obj[indivial_i, :] = [ 8. 8. 126. 134.]
414     cord_individual_obj[indivial_i, :] = [ 9. 8. 111. 119.]
415     cord_individual_obj[indivial_i, :] = [10. 11. 86. 97.]

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416 cord_individual_obj[indivial_i,:] = [ 11. 8. 126. 134.]
417 cord_individual_obj[indivial_i,:] = [ 12. 10. 148. 158.]
418 cord_individual_obj[indivial_i,:] = [13. 8. 58. 66.]
419 cord_individual_obj[indivial_i,:] = [ 14. 8. 113. 121.]
420 cord_individual_obj[indivial_i,:] = [ 15. 7. 114. 121.]
421 cord_individual_obj[indivial_i,:] = [ 16. 9. 119. 128.]
422 cord_individual_obj[indivial_i,:] = [ 17. 9. 128. 137.]
423 cord_individual_obj[indivial_i,:] = [ 18. 11. 114. 125.]
424 cord_individual_obj[indivial_i,:] = [ 19. 9. 123. 132.]
425 cord_individual_obj[indivial_i,:] = [ 20. 9. 114. 123.]
426 cord_individual_obj[indivial_i,:] = [ 21. 7. 205. 212.]
427 cord_individual_obj[indivial_i,:] = [ 22. 9. 109. 118.]
428 cord_individual_obj[indivial_i,:] = [ 23. 10. 90. 100.]
429 cord_individual_obj[indivial_i,:] = [ 24. 9. 162. 171.]
430
431 min(cord_individual_obj[:,3]) = 66.0
432 histol_G_best_iter[iter,3] = 66.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 10. 88. 98.]
437 cord_individual_obj[indivial_i,:] = [ 1. 9. 79. 88.]
438 cord_individual_obj[indivial_i,:] = [ 2. 8. 160. 168.]
439 cord_individual_obj[indivial_i,:] = [ 3. 9. 101. 110.]
440 cord_individual_obj[indivial_i,:] = [ 4. 9. 147. 156.]
441 cord_individual_obj[indivial_i,:] = [ 5. 7. 144. 151.]
442 cord_individual_obj[indivial_i,:] = [ 6. 6. 188. 194.]
443 cord_individual_obj[indivial_i,:] = [ 7. 7. 103. 110.]
444 cord_individual_obj[indivial_i,:] = [ 8. 9. 96. 105.]
445 cord_individual_obj[indivial_i,:] = [ 9. 7. 178. 185.]
446 cord_individual_obj[indivial_i,:] = [10. 12. 84. 96.]
447 cord_individual_obj[indivial_i,:] = [11. 8. 127. 135.]
448 cord_individual_obj[indivial_i,:] = [12. 10. 110. 120.]
449 cord_individual_obj[indivial_i,:] = [13. 8. 130. 138.]
450 cord_individual_obj[indivial_i,:] = [14. 10. 174. 184.]
451 cord_individual_obj[indivial_i,:] = [15. 8. 132. 140.]
452 cord_individual_obj[indivial_i,:] = [16. 9. 121. 130.]
453 cord_individual_obj[indivial_i,:] = [17. 8. 179. 187.]
454 cord_individual_obj[indivial_i,:] = [18. 9. 114. 123.]
455 cord_individual_obj[indivial_i,:] = [19. 11. 162. 173.]
456 cord_individual_obj[indivial_i,:] = [20. 9. 117. 126.]
457 cord_individual_obj[indivial_i,:] = [21. 8. 58. 66.]
458 cord_individual_obj[indivial_i,:] = [22. 7. 79. 86.]
459 cord_individual_obj[indivial_i,:] = [23. 8. 158. 166.]
460 cord_individual_obj[indivial_i,:] = [24. 7. 109. 116.]
461
462 min(cord_individual_obj[:,3]) = 66.0
463 histol_G_best_iter[iter,3] = 66.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 9. 73. 82.]
468 cord_individual_obj[indivial_i,:] = [ 1. 9. 91. 100.]
469 cord_individual_obj[indivial_i,:] = [ 2. 8. 142. 150.]
470 cord_individual_obj[indivial_i,:] = [ 3. 9. 88. 97.]
471 cord_individual_obj[indivial_i,:] = [ 4. 10. 143. 153.]
472 cord_individual_obj[indivial_i,:] = [ 5. 10. 120. 130.]
473 cord_individual_obj[indivial_i,:] = [ 6. 8. 58. 66.]
474 cord_individual_obj[indivial_i,:] = [ 7. 12. 128. 140.]
475 cord_individual_obj[indivial_i,:] = [ 8. 9. 122. 131.]
476 cord_individual_obj[indivial_i,:] = [ 9. 11. 131. 142.]
477 cord_individual_obj[indivial_i,:] = [10. 10. 98. 108.]
478 cord_individual_obj[indivial_i,:] = [11. 10. 125. 135.]
479 cord_individual_obj[indivial_i,:] = [12. 10. 103. 113.]
480 cord_individual_obj[indivial_i,:] = [13. 10. 189. 199.]
481 cord_individual_obj[indivial_i,:] = [14. 9. 115. 124.]
482 cord_individual_obj[indivial_i,:] = [15. 7. 111. 118.]
483 cord_individual_obj[indivial_i,:] = [16. 8. 120. 128.]
484 cord_individual_obj[indivial_i,:] = [17. 8. 77. 85.]
485 cord_individual_obj[indivial_i,:] = [18. 8. 73. 81.]
486 cord_individual_obj[indivial_i,:] = [19. 8. 128. 136.]
487 cord_individual_obj[indivial_i,:] = [20. 10. 106. 116.]
488 cord_individual_obj[indivial_i,:] = [21. 8. 156. 164.]
489 cord_individual_obj[indivial_i,:] = [22. 12. 90. 102.]
490 cord_individual_obj[indivial_i,:] = [23. 8. 122. 130.]
491 cord_individual_obj[indivial_i,:] = [24. 8. 87. 95.]
492
493 min(cord_individual_obj[:,3]) = 66.0
494 histol_G_best_iter[iter,3] = 66.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 9. 96. 105.]
499 cord_individual_obj[indivial_i,:] = [ 1. 9. 79. 88.]

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500 cord_individual_obj[indivial_i,:] = [ 2. 11. 107. 118.]
501 cord_individual_obj[indivial_i,:] = [ 3. 11. 110. 121.]
502 cord_individual_obj[indivial_i,:] = [ 4. 9. 117. 126.]
503 cord_individual_obj[indivial_i,:] = [ 5. 10. 100. 110.]
504 cord_individual_obj[indivial_i,:] = [ 6. 8. 175. 183.]
505 cord_individual_obj[indivial_i,:] = [ 7. 9. 81. 90.]
506 cord_individual_obj[indivial_i,:] = [ 8. 9. 116. 125.]
507 cord_individual_obj[indivial_i,:] = [ 9. 8. 76. 84.]
508 cord_individual_obj[indivial_i,:] = [ 10. 11. 103. 114.]
509 cord_individual_obj[indivial_i,:] = [ 11. 9. 117. 126.]
510 cord_individual_obj[indivial_i,:] = [ 12. 9. 147. 156.]
511 cord_individual_obj[indivial_i,:] = [ 13. 8. 58. 66.]
512 cord_individual_obj[indivial_i,:] = [ 14. 8. 56. 64.]
513 cord_individual_obj[indivial_i,:] = [ 15. 9. 159. 168.]
514 cord_individual_obj[indivial_i,:] = [ 16. 12. 89. 101.]
515 cord_individual_obj[indivial_i,:] = [ 17. 8. 132. 140.]
516 cord_individual_obj[indivial_i,:] = [ 18. 9. 114. 123.]
517 cord_individual_obj[indivial_i,:] = [ 19. 9. 136. 145.]
518 cord_individual_obj[indivial_i,:] = [ 20. 9. 81. 90.]
519 cord_individual_obj[indivial_i,:] = [ 21. 11. 102. 113.]
520 cord_individual_obj[indivial_i,:] = [ 22. 12. 75. 87.]
521 cord_individual_obj[indivial_i,:] = [ 23. 8. 107. 115.]
522 cord_individual_obj[indivial_i,:] = [ 24. 6. 128. 134.]
523
524 min(cord_individual_obj[:, 3]) = 64.0
525 histol_G_best_iter[iter, 3] = 64.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i,:] = [ 0. 10. 90. 100.]
530 cord_individual_obj[indivial_i,:] = [ 1. 8. 102. 110.]
531 cord_individual_obj[indivial_i,:] = [ 2. 9. 135. 144.]
532 cord_individual_obj[indivial_i,:] = [ 3. 9. 119. 128.]
533 cord_individual_obj[indivial_i,:] = [ 4. 9. 119. 128.]
534 cord_individual_obj[indivial_i,:] = [ 5. 10. 166. 176.]
535 cord_individual_obj[indivial_i,:] = [ 6. 8. 56. 64.]
536 cord_individual_obj[indivial_i,:] = [ 7. 9. 104. 113.]
537 cord_individual_obj[indivial_i,:] = [ 8. 10. 64. 74.]
538 cord_individual_obj[indivial_i,:] = [ 9. 9. 163. 172.]
539 cord_individual_obj[indivial_i,:] = [ 10. 10. 108. 118.]
540 cord_individual_obj[indivial_i,:] = [ 11. 10. 131. 141.]
541 cord_individual_obj[indivial_i,:] = [ 12. 10. 83. 93.]
542 cord_individual_obj[indivial_i,:] = [ 13. 8. 117. 125.]
543 cord_individual_obj[indivial_i,:] = [ 14. 11. 117. 128.]
544 cord_individual_obj[indivial_i,:] = [ 15. 8. 116. 124.]
545 cord_individual_obj[indivial_i,:] = [ 16. 8. 179. 187.]
546 cord_individual_obj[indivial_i,:] = [ 17. 8. 118. 126.]
547 cord_individual_obj[indivial_i,:] = [ 18. 7. 241. 248.]
548 cord_individual_obj[indivial_i,:] = [ 19. 11. 223. 234.]
549 cord_individual_obj[indivial_i,:] = [ 20. 8. 110. 118.]
550 cord_individual_obj[indivial_i,:] = [ 21. 9. 118. 127.]
551 cord_individual_obj[indivial_i,:] = [ 22. 8. 76. 84.]
552 cord_individual_obj[indivial_i,:] = [ 23. 10. 156. 166.]
553 cord_individual_obj[indivial_i,:] = [ 24. 8. 59. 67.]
554
555 min(cord_individual_obj[:, 3]) = 64.0
556 histol_G_best_iter[iter, 3] = 64.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i,:] = [ 0. 10. 84. 94.]
561 cord_individual_obj[indivial_i,:] = [ 1. 9. 161. 170.]
562 cord_individual_obj[indivial_i,:] = [ 2. 9. 62. 71.]
563 cord_individual_obj[indivial_i,:] = [ 3. 9. 102. 111.]
564 cord_individual_obj[indivial_i,:] = [ 4. 8. 117. 125.]
565 cord_individual_obj[indivial_i,:] = [ 5. 9. 111. 120.]
566 cord_individual_obj[indivial_i,:] = [ 6. 8. 90. 98.]
567 cord_individual_obj[indivial_i,:] = [ 7. 8. 225. 233.]
568 cord_individual_obj[indivial_i,:] = [ 8. 7. 170. 177.]
569 cord_individual_obj[indivial_i,:] = [ 9. 8. 96. 104.]
570 cord_individual_obj[indivial_i,:] = [ 10. 8. 87. 95.]
571 cord_individual_obj[indivial_i,:] = [ 11. 9. 68. 77.]
572 cord_individual_obj[indivial_i,:] = [ 12. 8. 149. 157.]
573 cord_individual_obj[indivial_i,:] = [ 13. 11. 118. 129.]
574 cord_individual_obj[indivial_i,:] = [ 14. 8. 116. 124.]
575 cord_individual_obj[indivial_i,:] = [ 15. 8. 87. 95.]
576 cord_individual_obj[indivial_i,:] = [ 16. 10. 150. 160.]
577 cord_individual_obj[indivial_i,:] = [ 17. 8. 100. 108.]
578 cord_individual_obj[indivial_i,:] = [ 18. 8. 56. 64.]
579 cord_individual_obj[indivial_i,:] = [ 19. 10. 148. 158.]
580 cord_individual_obj[indivial_i,:] = [ 20. 9. 137. 146.]
581 cord_individual_obj[indivial_i,:] = [ 21. 10. 131. 141.]
582 cord_individual_obj[indivial_i,:] = [ 22. 9. 125. 134.]
583 cord_individual_obj[indivial_i,:] = [ 23. 8. 92. 100.]

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584     cord_individual_obj[indivial_i, :] = [24. 10. 55. 65.]
585
586     min(cord_individual_obj[:, 3]) = 64.0
587     historl_G_best_iter[iter, 3] = 64.0
588 Begin iteration:
589 iter = 18
590     cord_individual_obj[indivial_i, :] = [ 0.  9. 114. 123.]
591     cord_individual_obj[indivial_i, :] = [ 1.  9. 69. 78.]
592     cord_individual_obj[indivial_i, :] = [ 2.  9. 157. 166.]
593     cord_individual_obj[indivial_i, :] = [ 3.  9. 123. 132.]
594     cord_individual_obj[indivial_i, :] = [ 4.  8. 102. 110.]
595     cord_individual_obj[indivial_i, :] = [ 5.  10. 118. 128.]
596     cord_individual_obj[indivial_i, :] = [ 6.  8. 145. 153.]
597     cord_individual_obj[indivial_i, :] = [ 7.  8. 56. 64.]
598     cord_individual_obj[indivial_i, :] = [ 8.  10. 129. 139.]
599     cord_individual_obj[indivial_i, :] = [ 9.  8. 217. 225.]
600     cord_individual_obj[indivial_i, :] = [10.  8. 140. 148.]
601     cord_individual_obj[indivial_i, :] = [11. 11. 93. 104.]
602     cord_individual_obj[indivial_i, :] = [12.  9. 157. 166.]
603     cord_individual_obj[indivial_i, :] = [13. 10. 170. 180.]
604     cord_individual_obj[indivial_i, :] = [14.  9. 140. 149.]
605     cord_individual_obj[indivial_i, :] = [15.  7. 64. 71.]
606     cord_individual_obj[indivial_i, :] = [16.  9. 162. 171.]
607     cord_individual_obj[indivial_i, :] = [17.  8. 106. 114.]
608     cord_individual_obj[indivial_i, :] = [18.  9. 115. 124.]
609     cord_individual_obj[indivial_i, :] = [19.  9. 94. 103.]
610     cord_individual_obj[indivial_i, :] = [20.  9. 67. 76.]
611     cord_individual_obj[indivial_i, :] = [21.  9. 169. 178.]
612     cord_individual_obj[indivial_i, :] = [22.  8. 119. 127.]
613     cord_individual_obj[indivial_i, :] = [23.  9. 124. 133.]
614     cord_individual_obj[indivial_i, :] = [24.  8. 123. 131.]
615
616
617     min(cord_individual_obj[:, 3]) = 64.0
618     historl_G_best_iter[iter, 3] = 64.0
619 Begin iteration:
620
621 iter = 19
622     cord_individual_obj[indivial_i, :] = [ 0.  9. 93. 102.]
623     cord_individual_obj[indivial_i, :] = [ 1. 11. 80. 91.]
624     cord_individual_obj[indivial_i, :] = [ 2.  9. 104. 113.]
625     cord_individual_obj[indivial_i, :] = [ 3. 10. 135. 145.]
626     cord_individual_obj[indivial_i, :] = [ 4. 11. 108. 119.]
627     cord_individual_obj[indivial_i, :] = [ 5. 10. 91. 101.]
628     cord_individual_obj[indivial_i, :] = [ 6.  7. 116. 123.]
629     cord_individual_obj[indivial_i, :] = [ 7.  9. 120. 129.]
630     cord_individual_obj[indivial_i, :] = [ 8. 10. 110. 120.]
631     cord_individual_obj[indivial_i, :] = [ 9.  8. 56. 64.]
632     cord_individual_obj[indivial_i, :] = [10.  7. 128. 135.]
633     cord_individual_obj[indivial_i, :] = [11.  8. 93. 101.]
634     cord_individual_obj[indivial_i, :] = [12. 10. 110. 120.]
635     cord_individual_obj[indivial_i, :] = [13.  9. 134. 143.]
636     cord_individual_obj[indivial_i, :] = [14.  8. 124. 132.]
637     cord_individual_obj[indivial_i, :] = [15.  7. 149. 156.]
638     cord_individual_obj[indivial_i, :] = [16.  8. 108. 116.]
639     cord_individual_obj[indivial_i, :] = [17.  9. 117. 126.]
640     cord_individual_obj[indivial_i, :] = [18.  8. 102. 110.]
641     cord_individual_obj[indivial_i, :] = [19. 10. 107. 117.]
642     cord_individual_obj[indivial_i, :] = [20. 10. 107. 117.]
643     cord_individual_obj[indivial_i, :] = [21.  8. 161. 169.]
644     cord_individual_obj[indivial_i, :] = [22. 10. 122. 132.]
645     cord_individual_obj[indivial_i, :] = [23. 10. 131. 141.]
646     cord_individual_obj[indivial_i, :] = [24.  9. 101. 110.]
647
648     min(cord_individual_obj[:, 3]) = 64.0
649     historl_G_best_iter[iter, 3] = 64.0
650 Begin iteration:
651
652 iter = 20
653     cord_individual_obj[indivial_i, :] = [ 0.  8. 101. 109.]
654     cord_individual_obj[indivial_i, :] = [ 1.  9. 107. 116.]
655     cord_individual_obj[indivial_i, :] = [ 2.  8. 106. 114.]
656     cord_individual_obj[indivial_i, :] = [ 3.  8. 135. 143.]
657     cord_individual_obj[indivial_i, :] = [ 4.  8. 151. 159.]
658     cord_individual_obj[indivial_i, :] = [ 5.  8. 99. 107.]
659     cord_individual_obj[indivial_i, :] = [ 6. 10. 89. 99.]
660     cord_individual_obj[indivial_i, :] = [ 7.  8. 138. 146.]
661     cord_individual_obj[indivial_i, :] = [ 8. 10. 147. 157.]
662     cord_individual_obj[indivial_i, :] = [ 9.  9. 144. 153.]
663     cord_individual_obj[indivial_i, :] = [10.  8. 149. 157.]
664     cord_individual_obj[indivial_i, :] = [11.  9. 131. 140.]
665     cord_individual_obj[indivial_i, :] = [12. 10. 160. 170.]
666     cord_individual_obj[indivial_i, :] = [13.  8. 106. 114.]
667     cord_individual_obj[indivial_i, :] = [14. 10. 177. 187.]

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668 cord_individual_obj[indivial_i,:] = [15. 9. 68. 77.]
669 cord_individual_obj[indivial_i,:] = [16. 9. 142. 151.]
670 cord_individual_obj[indivial_i,:] = [17. 7. 158. 165.]
671 cord_individual_obj[indivial_i,:] = [18. 8. 122. 130.]
672 cord_individual_obj[indivial_i,:] = [19. 9. 108. 117.]
673 cord_individual_obj[indivial_i,:] = [20. 8. 78. 86.]
674 cord_individual_obj[indivial_i,:] = [21. 8. 56. 64.]
675 cord_individual_obj[indivial_i,:] = [22. 12. 156. 168.]
676 cord_individual_obj[indivial_i,:] = [23. 10. 167. 177.]
677 cord_individual_obj[indivial_i,:] = [24. 6. 122. 128.]
678
679 min(cord_individual_obj[:,3]) = 64.0
680 historl_G_best_iter[iter,3] = 64.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 178.0
689 Proportion_of_area = 0.1648148148148148
690 BEST_CHROM =
691 berth: [13.5 17. 24. 22.5 3.5 13.5 10.5 22.5 2. 4.5 22.5 13.5 16. 4.5
692 8.5 6. 1.5]
693 time: [6. 0. 6. 1. 2. 8. 0. 3. 3. 0. 0. 0. 3. 7. 7. 5. 5.]
694 num_QC: [4. 4. 3. 2. 4. 5. 2. 3. 3. 3. 2. 2. 3. 5. 2. 2.]
695 Objective function values and some other indicators:
696 Obj0 = 8.00          Obj1 = 56.00        Obj0 + Obj1 = 64.00
697 Total movement of crane: 0.00
698 Total waiting time in berth position: 56.00
699 Total index of q during berthing: 916.00
700 Specific arrangement for each vessel:
701 V_id: 0      li: 5.0           xi: 13.5           bow of i: 11.0           tail of i: 16.0           gama_i0: 6.0           gama_i1: 7
702 .0          gama_i1 + 1: 8.0   gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 100.0         work
703 load_i: 100.0
704 V_id: 1      li: 4.0           xi: 17.0           bow of i: 15.0           tail of i: 19.0           gama_i0: 0.0           gama_i1: 1
705 .0          gama_i1 + 1: 2.0   gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 100.0         work
706 load_i: 100.0
707 V_id: 2      li: 8.0           xi: 24.0           bow of i: 20.0           tail of i: 28.0           gama_i0: 6.0           gama_i1: 8
708 .0          gama_i1 + 1: 9.0   gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 140.0         work
709 load_i: 140.0
710 V_id: 3      li: 7.0           xi: 22.5           bow of i: 19.0           tail of i: 26.0           gama_i0: 1.0           gama_i1: 2
711 .0          gama_i1 + 1: 3.0   gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0          work
712 load_i: 80.0
713 V_id: 4      li: 7.0           xi: 3.5            bow of i: 0.0            tail of i: 7.0            gama_i0: 2.0           gama_i1: 2
714 .0          gama_i1 + 1: 3.0   gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 80.0          work load_i:
715 80.0
716 V_id: 5      li: 5.0           xi: 13.5           bow of i: 11.0           tail of i: 16.0           gama_i0: 8.0           gama_i1: 8
717 .0          gama_i1 + 1: 9.0   gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 80.0          work
718 load_i: 80.0
719 V_id: 6      li: 3.0           xi: 10.5           bow of i: 9.0            tail of i: 12.0           gama_i0: 0.0           gama_i1: 3
720 .0          gama_i1 + 1: 4.0   gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 160.0         work
721 load_i: 160.0
722 V_id: 7      li: 5.0           xi: 22.5           bow of i: 20.0           tail of i: 25.0           gama_i0: 3.0           gama_i1: 5
723 .0          gama_i1 + 1: 6.0   gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 140.0         work
724 load_i: 140.0
725 V_id: 8      li: 4.0           xi: 2.0            bow of i: 0.0            tail of i: 4.0            gama_i0: 3.0           gama_i1: 4.0
726 .0          gama_i1 + 1: 5.0   gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0          work load_i:
727 80.0
728 V_id: 9      li: 9.0           xi: 4.5            bow of i: 0.0            tail of i: 9.0            gama_i0: 0.0           gama_i1: 1.0
729 .0          gama_i1 + 1: 2.0   gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 120.0         work load_i:
730 120.0
731 V_id: 10     li: 7.0           xi: 22.5           bow of i: 19.0           tail of i: 26.0           gama_i0: 0.0           gama_i1: 1
732 : 0.0
733 load_i: 60.0
734 V_id: 11     li: 3.0           xi: 13.5           bow of i: 12.0           tail of i: 15.0           gama_i0: 0.0           gama_i1: 1
735 : 1.0
736 load_i: 60.0
737 V_id: 12     li: 8.0           xi: 16.0           bow of i: 12.0           tail of i: 20.0           gama_i0: 3.0           gama_i1: 1
738 : 5.0
739 load_i: 120.0
740 V_id: 13     li: 3.0           xi: 4.5            bow of i: 3.0            tail of i: 6.0            gama_i0: 7.0           gama_i1: 8.0
741 120.0
742 work load_i: 0
743 V_id: 14     li: 5.0           xi: 8.5            bow of i: 6.0            tail of i: 11.0           gama_i0: 7.0           gama_i1: 8
744 .0
745 load_i: 140.0
746 V_id: 15     li: 6.0           xi: 6.0            bow of i: 3.0            tail of i: 9.0            gama_i0: 5.0           gama_i1: 6.0
747 60.0
748 work load_i: 0
749 V_id: 16     li: 3.0           xi: 1.5            bow of i: 0.0            tail of i: 3.0            gama_i0: 5.0           gama_i1: 8.0
750 160.0
751 work load_i: 0

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unknown

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718  
719 Algorithm finished and the total CPU time: 452 s  
720 End  
721
```