

unknown

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80 cord_individual_obj[indivial_i,:] = [ 16. 12. 330. 342.]
81 cord_individual_obj[indivial_i,:] = [ 17. 9. 319. 328.]
82 cord_individual_obj[indivial_i,:] = [ 18. 10. 314. 324.]
83 cord_individual_obj[indivial_i,:] = [ 19. 11. 354. 365.]
84 cord_individual_obj[indivial_i,:] = [ 20. 11. 306. 317.]
85 cord_individual_obj[indivial_i,:] = [ 21. 11. 283. 294.]
86 cord_individual_obj[indivial_i,:] = [ 22. 12. 448. 460.]
87 cord_individual_obj[indivial_i,:] = [ 23. 15. 403. 418.]
88 cord_individual_obj[indivial_i,:] = [ 24. 10. 271. 281.]
89
90 min(cord_individual_obj[:,3]) = 281.0
91 historl_G_best_iter[iter, 3] = 281.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 10. 292. 302.]
96 cord_individual_obj[indivial_i,:] = [ 1. 14. 357. 371.]
97 cord_individual_obj[indivial_i,:] = [ 2. 12. 224. 236.]
98 cord_individual_obj[indivial_i,:] = [ 3. 10. 234. 244.]
99 cord_individual_obj[indivial_i,:] = [ 4. 10. 261. 271.]
100 cord_individual_obj[indivial_i,:] = [ 5. 13. 367. 380.]
101 cord_individual_obj[indivial_i,:] = [ 6. 11. 287. 298.]
102 cord_individual_obj[indivial_i,:] = [ 7. 10. 274. 284.]
103 cord_individual_obj[indivial_i,:] = [ 8. 9. 260. 269.]
104 cord_individual_obj[indivial_i,:] = [ 9. 12. 229. 241.]
105 cord_individual_obj[indivial_i,:] = [ 10. 12. 274. 286.]
106 cord_individual_obj[indivial_i,:] = [ 11. 12. 380. 392.]
107 cord_individual_obj[indivial_i,:] = [ 12. 12. 262. 274.]
108 cord_individual_obj[indivial_i,:] = [ 13. 13. 307. 320.]
109 cord_individual_obj[indivial_i,:] = [ 14. 12. 299. 311.]
110 cord_individual_obj[indivial_i,:] = [ 15. 10. 271. 281.]
111 cord_individual_obj[indivial_i,:] = [ 16. 12. 262. 274.]
112 cord_individual_obj[indivial_i,:] = [ 17. 14. 368. 382.]
113 cord_individual_obj[indivial_i,:] = [ 18. 11. 277. 288.]
114 cord_individual_obj[indivial_i,:] = [ 19. 13. 279. 292.]
115 cord_individual_obj[indivial_i,:] = [ 20. 12. 275. 287.]
116 cord_individual_obj[indivial_i,:] = [ 21. 11. 426. 437.]
117 cord_individual_obj[indivial_i,:] = [ 22. 13. 279. 292.]
118 cord_individual_obj[indivial_i,:] = [ 23. 11. 386. 397.]
119 cord_individual_obj[indivial_i,:] = [ 24. 11. 311. 322.]
120
121 min(cord_individual_obj[:,3]) = 236.0
122 historl_G_best_iter[iter, 3] = 236.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 12. 306. 318.]
127 cord_individual_obj[indivial_i,:] = [ 1. 13. 334. 347.]
128 cord_individual_obj[indivial_i,:] = [ 2. 12. 335. 347.]
129 cord_individual_obj[indivial_i,:] = [ 3. 10. 304. 314.]
130 cord_individual_obj[indivial_i,:] = [ 4. 11. 308. 319.]
131 cord_individual_obj[indivial_i,:] = [ 5. 13. 410. 423.]
132 cord_individual_obj[indivial_i,:] = [ 6. 12. 292. 304.]
133 cord_individual_obj[indivial_i,:] = [ 7. 11. 339. 350.]
134 cord_individual_obj[indivial_i,:] = [ 8. 11. 374. 385.]
135 cord_individual_obj[indivial_i,:] = [ 9. 9. 257. 266.]
136 cord_individual_obj[indivial_i,:] = [ 10. 12. 316. 328.]
137 cord_individual_obj[indivial_i,:] = [ 11. 11. 281. 292.]
138 cord_individual_obj[indivial_i,:] = [ 12. 11. 367. 378.]
139 cord_individual_obj[indivial_i,:] = [ 13. 10. 291. 301.]
140 cord_individual_obj[indivial_i,:] = [ 14. 10. 359. 369.]
141 cord_individual_obj[indivial_i,:] = [ 15. 10. 268. 278.]
142 cord_individual_obj[indivial_i,:] = [ 16. 12. 374. 386.]
143 cord_individual_obj[indivial_i,:] = [ 17. 10. 323. 333.]
144 cord_individual_obj[indivial_i,:] = [ 18. 14. 372. 386.]
145 cord_individual_obj[indivial_i,:] = [ 19. 14. 379. 393.]
146 cord_individual_obj[indivial_i,:] = [ 20. 10. 321. 331.]
147 cord_individual_obj[indivial_i,:] = [ 21. 12. 224. 236.]
148 cord_individual_obj[indivial_i,:] = [ 22. 11. 368. 379.]
149 cord_individual_obj[indivial_i,:] = [ 23. 11. 318. 329.]
150 cord_individual_obj[indivial_i,:] = [ 24. 12. 354. 366.]
151
152 min(cord_individual_obj[:,3]) = 236.0
153 historl_G_best_iter[iter, 3] = 236.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 13. 247. 260.]
158 cord_individual_obj[indivial_i,:] = [ 1. 11. 257. 268.]
159 cord_individual_obj[indivial_i,:] = [ 2. 12. 290. 302.]
160 cord_individual_obj[indivial_i,:] = [ 3. 12. 296. 308.]
161 cord_individual_obj[indivial_i,:] = [ 4. 10. 229. 239.]
162 cord_individual_obj[indivial_i,:] = [ 5. 12. 224. 236.]
163 cord_individual_obj[indivial_i,:] = [ 6. 11. 292. 303.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 11. 258. 269.]
165 cord_individual_obj[indivial_i,:] = [ 8. 12. 289. 301.]
166 cord_individual_obj[indivial_i,:] = [ 9. 13. 262. 275.]
167 cord_individual_obj[indivial_i,:] = [ 10. 12. 276. 288.]
168 cord_individual_obj[indivial_i,:] = [ 11. 11. 234. 245.]
169 cord_individual_obj[indivial_i,:] = [ 12. 13. 252. 265.]
170 cord_individual_obj[indivial_i,:] = [ 13. 12. 248. 260.]
171 cord_individual_obj[indivial_i,:] = [ 14. 10. 266. 276.]
172 cord_individual_obj[indivial_i,:] = [ 15. 12. 268. 280.]
173 cord_individual_obj[indivial_i,:] = [ 16. 12. 367. 379.]
174 cord_individual_obj[indivial_i,:] = [ 17. 11. 279. 290.]
175 cord_individual_obj[indivial_i,:] = [ 18. 14. 315. 329.]
176 cord_individual_obj[indivial_i,:] = [ 19. 12. 313. 325.]
177 cord_individual_obj[indivial_i,:] = [ 20. 11. 266. 277.]
178 cord_individual_obj[indivial_i,:] = [ 21. 12. 287. 299.]
179 cord_individual_obj[indivial_i,:] = [ 22. 10. 298. 308.]
180 cord_individual_obj[indivial_i,:] = [ 23. 11. 206. 217.]
181 cord_individual_obj[indivial_i,:] = [ 24. 11. 236. 247.]
182
183 min(cord_individual_obj[:,3]) = 217.0
184 historl_G_best_iter[iter, 3] = 217.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 11. 370. 381.]
189 cord_individual_obj[indivial_i,:] = [ 1. 12. 324. 336.]
190 cord_individual_obj[indivial_i,:] = [ 2. 14. 333. 347.]
191 cord_individual_obj[indivial_i,:] = [ 3. 12. 269. 281.]
192 cord_individual_obj[indivial_i,:] = [ 4. 11. 337. 348.]
193 cord_individual_obj[indivial_i,:] = [ 5. 10. 362. 372.]
194 cord_individual_obj[indivial_i,:] = [ 6. 11. 277. 288.]
195 cord_individual_obj[indivial_i,:] = [ 7. 12. 319. 331.]
196 cord_individual_obj[indivial_i,:] = [ 8. 9. 358. 367.]
197 cord_individual_obj[indivial_i,:] = [ 9. 14. 343. 357.]
198 cord_individual_obj[indivial_i,:] = [ 10. 12. 347. 359.]
199 cord_individual_obj[indivial_i,:] = [ 11. 11. 372. 383.]
200 cord_individual_obj[indivial_i,:] = [ 12. 12. 409. 421.]
201 cord_individual_obj[indivial_i,:] = [ 13. 14. 272. 286.]
202 cord_individual_obj[indivial_i,:] = [ 14. 11. 315. 326.]
203 cord_individual_obj[indivial_i,:] = [ 15. 13. 351. 364.]
204 cord_individual_obj[indivial_i,:] = [ 16. 11. 206. 217.]
205 cord_individual_obj[indivial_i,:] = [ 17. 12. 310. 322.]
206 cord_individual_obj[indivial_i,:] = [ 18. 12. 384. 396.]
207 cord_individual_obj[indivial_i,:] = [ 19. 12. 383. 395.]
208 cord_individual_obj[indivial_i,:] = [ 20. 13. 310. 323.]
209 cord_individual_obj[indivial_i,:] = [ 21. 12. 264. 276.]
210 cord_individual_obj[indivial_i,:] = [ 22. 11. 316. 327.]
211 cord_individual_obj[indivial_i,:] = [ 23. 12. 347. 359.]
212 cord_individual_obj[indivial_i,:] = [ 24. 13. 414. 427.]
213
214 min(cord_individual_obj[:,3]) = 217.0
215 historl_G_best_iter[iter, 3] = 217.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 15. 351. 366.]
220 cord_individual_obj[indivial_i,:] = [ 1. 10. 276. 286.]
221 cord_individual_obj[indivial_i,:] = [ 2. 9. 274. 283.]
222 cord_individual_obj[indivial_i,:] = [ 3. 10. 279. 289.]
223 cord_individual_obj[indivial_i,:] = [ 4. 13. 248. 261.]
224 cord_individual_obj[indivial_i,:] = [ 5. 12. 246. 258.]
225 cord_individual_obj[indivial_i,:] = [ 6. 12. 228. 240.]
226 cord_individual_obj[indivial_i,:] = [ 7. 12. 343. 355.]
227 cord_individual_obj[indivial_i,:] = [ 8. 11. 375. 386.]
228 cord_individual_obj[indivial_i,:] = [ 9. 12. 214. 226.]
229 cord_individual_obj[indivial_i,:] = [ 10. 11. 233. 244.]
230 cord_individual_obj[indivial_i,:] = [ 11. 11. 311. 322.]
231 cord_individual_obj[indivial_i,:] = [ 12. 10. 305. 315.]
232 cord_individual_obj[indivial_i,:] = [ 13. 11. 257. 268.]
233 cord_individual_obj[indivial_i,:] = [ 14. 11. 302. 313.]
234 cord_individual_obj[indivial_i,:] = [ 15. 13. 332. 345.]
235 cord_individual_obj[indivial_i,:] = [ 16. 11. 317. 328.]
236 cord_individual_obj[indivial_i,:] = [ 17. 11. 231. 242.]
237 cord_individual_obj[indivial_i,:] = [ 18. 11. 237. 248.]
238 cord_individual_obj[indivial_i,:] = [ 19. 12. 319. 331.]
239 cord_individual_obj[indivial_i,:] = [ 20. 12. 306. 318.]
240 cord_individual_obj[indivial_i,:] = [ 21. 13. 322. 335.]
241 cord_individual_obj[indivial_i,:] = [ 22. 11. 384. 395.]
242 cord_individual_obj[indivial_i,:] = [ 23. 10. 234. 244.]
243 cord_individual_obj[indivial_i,:] = [ 24. 11. 206. 217.]
244
245 min(cord_individual_obj[:,3]) = 217.0
246 historl_G_best_iter[iter, 3] = 217.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0. 10. 273. 283.]
251 cord_individual_obj[indivial_i, :] = [ 1. 11. 233. 244.]
252 cord_individual_obj[indivial_i, :] = [ 2. 14. 273. 287.]
253 cord_individual_obj[indivial_i, :] = [ 3. 11. 274. 285.]
254 cord_individual_obj[indivial_i, :] = [ 4. 12. 328. 340.]
255 cord_individual_obj[indivial_i, :] = [ 5. 12. 217. 229.]
256 cord_individual_obj[indivial_i, :] = [ 6. 14. 295. 309.]
257 cord_individual_obj[indivial_i, :] = [ 7. 11. 269. 280.]
258 cord_individual_obj[indivial_i, :] = [ 8. 11. 284. 295.]
259 cord_individual_obj[indivial_i, :] = [ 9. 10. 224. 234.]
260 cord_individual_obj[indivial_i, :] = [ 10. 11. 261. 272.]
261 cord_individual_obj[indivial_i, :] = [ 11. 12. 279. 291.]
262 cord_individual_obj[indivial_i, :] = [ 12. 12. 376. 388.]
263 cord_individual_obj[indivial_i, :] = [ 13. 13. 250. 263.]
264 cord_individual_obj[indivial_i, :] = [ 14. 12. 243. 255.]
265 cord_individual_obj[indivial_i, :] = [ 15. 12. 254. 266.]
266 cord_individual_obj[indivial_i, :] = [ 16. 14. 267. 281.]
267 cord_individual_obj[indivial_i, :] = [ 17. 12. 245. 257.]
268 cord_individual_obj[indivial_i, :] = [ 18. 12. 224. 236.]
269 cord_individual_obj[indivial_i, :] = [ 19. 13. 304. 317.]
270 cord_individual_obj[indivial_i, :] = [ 20. 10. 268. 278.]
271 cord_individual_obj[indivial_i, :] = [ 21. 12. 299. 311.]
272 cord_individual_obj[indivial_i, :] = [ 22. 11. 206. 217.]
273 cord_individual_obj[indivial_i, :] = [ 23. 12. 312. 324.]
274 cord_individual_obj[indivial_i, :] = [ 24. 11. 312. 323.]
275

276 min(cord_individual_obj[:, 3]) = 217.0
277 historl_G_best_iter[iter, 3] = 217.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0. 11. 302. 313.]
282 cord_individual_obj[indivial_i, :] = [ 1. 10. 330. 340.]
283 cord_individual_obj[indivial_i, :] = [ 2. 11. 268. 279.]
284 cord_individual_obj[indivial_i, :] = [ 3. 13. 206. 219.]
285 cord_individual_obj[indivial_i, :] = [ 4. 13. 321. 334.]
286 cord_individual_obj[indivial_i, :] = [ 5. 12. 378. 390.]
287 cord_individual_obj[indivial_i, :] = [ 6. 12. 232. 244.]
288 cord_individual_obj[indivial_i, :] = [ 7. 11. 329. 340.]
289 cord_individual_obj[indivial_i, :] = [ 8. 11. 300. 311.]
290 cord_individual_obj[indivial_i, :] = [ 9. 12. 300. 312.]
291 cord_individual_obj[indivial_i, :] = [ 10. 11. 253. 264.]
292 cord_individual_obj[indivial_i, :] = [ 11. 11. 273. 284.]
293 cord_individual_obj[indivial_i, :] = [ 12. 11. 206. 217.]
294 cord_individual_obj[indivial_i, :] = [ 13. 11. 276. 287.]
295 cord_individual_obj[indivial_i, :] = [ 14. 11. 287. 298.]
296 cord_individual_obj[indivial_i, :] = [ 15. 11. 315. 326.]
297 cord_individual_obj[indivial_i, :] = [ 16. 12. 353. 365.]
298 cord_individual_obj[indivial_i, :] = [ 17. 11. 312. 323.]
299 cord_individual_obj[indivial_i, :] = [ 18. 11. 250. 261.]
300 cord_individual_obj[indivial_i, :] = [ 19. 12. 293. 305.]
301 cord_individual_obj[indivial_i, :] = [ 20. 12. 316. 328.]
302 cord_individual_obj[indivial_i, :] = [ 21. 14. 392. 406.]
303 cord_individual_obj[indivial_i, :] = [ 22. 12. 407. 419.]
304 cord_individual_obj[indivial_i, :] = [ 23. 12. 333. 345.]
305 cord_individual_obj[indivial_i, :] = [ 24. 12. 243. 255.]
306

307 min(cord_individual_obj[:, 3]) = 217.0
308 historl_G_best_iter[iter, 3] = 217.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0. 10. 251. 261.]
313 cord_individual_obj[indivial_i, :] = [ 1. 12. 233. 245.]
314 cord_individual_obj[indivial_i, :] = [ 2. 13. 225. 238.]
315 cord_individual_obj[indivial_i, :] = [ 3. 12. 187. 199.]
316 cord_individual_obj[indivial_i, :] = [ 4. 11. 279. 290.]
317 cord_individual_obj[indivial_i, :] = [ 5. 11. 283. 294.]
318 cord_individual_obj[indivial_i, :] = [ 6. 12. 230. 242.]
319 cord_individual_obj[indivial_i, :] = [ 7. 13. 340. 353.]
320 cord_individual_obj[indivial_i, :] = [ 8. 11. 282. 293.]
321 cord_individual_obj[indivial_i, :] = [ 9. 10. 194. 204.]
322 cord_individual_obj[indivial_i, :] = [ 10. 11. 251. 262.]
323 cord_individual_obj[indivial_i, :] = [ 11. 12. 300. 312.]
324 cord_individual_obj[indivial_i, :] = [ 12. 12. 318. 330.]
325 cord_individual_obj[indivial_i, :] = [ 13. 11. 235. 246.]
326 cord_individual_obj[indivial_i, :] = [ 14. 13. 315. 328.]
327 cord_individual_obj[indivial_i, :] = [ 15. 11. 251. 262.]
328 cord_individual_obj[indivial_i, :] = [ 16. 13. 243. 256.]
329 cord_individual_obj[indivial_i, :] = [ 17. 12. 251. 263.]
330 cord_individual_obj[indivial_i, :] = [ 18. 13. 317. 330.]
331 cord_individual_obj[indivial_i, :] = [ 19. 12. 179. 191.]

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332 cord_individual_obj[indivial_i, :] = [ 20. 10. 235. 245.]
333 cord_individual_obj[indivial_i, :] = [ 21. 12. 252. 264.]
334 cord_individual_obj[indivial_i, :] = [ 22. 11. 206. 217.]
335 cord_individual_obj[indivial_i, :] = [ 23. 11. 209. 220.]
336 cord_individual_obj[indivial_i, :] = [ 24. 12. 211. 223.]
337
338 min(cord_individual_obj[:, 3]) = 191.0
339 histol_G_best_iter[iter, 3] = 191.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i, :] = [ 0. 14. 259. 273.]
344 cord_individual_obj[indivial_i, :] = [ 1. 12. 256. 268.]
345 cord_individual_obj[indivial_i, :] = [ 2. 10. 226. 236.]
346 cord_individual_obj[indivial_i, :] = [ 3. 10. 301. 311.]
347 cord_individual_obj[indivial_i, :] = [ 4. 13. 233. 246.]
348 cord_individual_obj[indivial_i, :] = [ 5. 12. 312. 324.]
349 cord_individual_obj[indivial_i, :] = [ 6. 11. 243. 254.]
350 cord_individual_obj[indivial_i, :] = [ 7. 12. 179. 191.]
351 cord_individual_obj[indivial_i, :] = [ 8. 11. 313. 324.]
352 cord_individual_obj[indivial_i, :] = [ 9. 12. 259. 271.]
353 cord_individual_obj[indivial_i, :] = [ 10. 11. 242. 253.]
354 cord_individual_obj[indivial_i, :] = [ 11. 14. 254. 268.]
355 cord_individual_obj[indivial_i, :] = [ 12. 13. 320. 333.]
356 cord_individual_obj[indivial_i, :] = [ 13. 13. 194. 207.]
357 cord_individual_obj[indivial_i, :] = [ 14. 10. 188. 198.]
358 cord_individual_obj[indivial_i, :] = [ 15. 14. 250. 264.]
359 cord_individual_obj[indivial_i, :] = [ 16. 11. 184. 195.]
360 cord_individual_obj[indivial_i, :] = [ 17. 13. 249. 262.]
361 cord_individual_obj[indivial_i, :] = [ 18. 12. 205. 217.]
362 cord_individual_obj[indivial_i, :] = [ 19. 12. 293. 305.]
363 cord_individual_obj[indivial_i, :] = [ 20. 11. 232. 243.]
364 cord_individual_obj[indivial_i, :] = [ 21. 12. 249. 261.]
365 cord_individual_obj[indivial_i, :] = [ 22. 11. 343. 354.]
366 cord_individual_obj[indivial_i, :] = [ 23. 10. 278. 288.]
367 cord_individual_obj[indivial_i, :] = [ 24. 12. 214. 226.]
368
369 min(cord_individual_obj[:, 3]) = 191.0
370 histol_G_best_iter[iter, 3] = 191.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i, :] = [ 0. 13. 238. 251.]
375 cord_individual_obj[indivial_i, :] = [ 1. 12. 212. 224.]
376 cord_individual_obj[indivial_i, :] = [ 2. 12. 185. 197.]
377 cord_individual_obj[indivial_i, :] = [ 3. 12. 202. 214.]
378 cord_individual_obj[indivial_i, :] = [ 4. 12. 248. 260.]
379 cord_individual_obj[indivial_i, :] = [ 5. 11. 200. 211.]
380 cord_individual_obj[indivial_i, :] = [ 6. 11. 285. 296.]
381 cord_individual_obj[indivial_i, :] = [ 7. 9. 224. 233.]
382 cord_individual_obj[indivial_i, :] = [ 8. 11. 313. 324.]
383 cord_individual_obj[indivial_i, :] = [ 9. 11. 164. 175.]
384 cord_individual_obj[indivial_i, :] = [ 10. 12. 204. 216.]
385 cord_individual_obj[indivial_i, :] = [ 11. 12. 253. 265.]
386 cord_individual_obj[indivial_i, :] = [ 12. 11. 305. 316.]
387 cord_individual_obj[indivial_i, :] = [ 13. 11. 248. 259.]
388 cord_individual_obj[indivial_i, :] = [ 14. 12. 257. 269.]
389 cord_individual_obj[indivial_i, :] = [ 15. 12. 266. 278.]
390 cord_individual_obj[indivial_i, :] = [ 16. 12. 260. 272.]
391 cord_individual_obj[indivial_i, :] = [ 17. 11. 230. 241.]
392 cord_individual_obj[indivial_i, :] = [ 18. 10. 261. 271.]
393 cord_individual_obj[indivial_i, :] = [ 19. 12. 260. 272.]
394 cord_individual_obj[indivial_i, :] = [ 20. 11. 210. 221.]
395 cord_individual_obj[indivial_i, :] = [ 21. 13. 276. 289.]
396 cord_individual_obj[indivial_i, :] = [ 22. 12. 179. 191.]
397 cord_individual_obj[indivial_i, :] = [ 23. 11. 316. 327.]
398 cord_individual_obj[indivial_i, :] = [ 24. 10. 267. 277.]
399
400 min(cord_individual_obj[:, 3]) = 175.0
401 histol_G_best_iter[iter, 3] = 175.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i, :] = [ 0. 13. 181. 194.]
406 cord_individual_obj[indivial_i, :] = [ 1. 12. 199. 211.]
407 cord_individual_obj[indivial_i, :] = [ 2. 11. 278. 289.]
408 cord_individual_obj[indivial_i, :] = [ 3. 11. 248. 259.]
409 cord_individual_obj[indivial_i, :] = [ 4. 10. 257. 267.]
410 cord_individual_obj[indivial_i, :] = [ 5. 12. 219. 231.]
411 cord_individual_obj[indivial_i, :] = [ 6. 12. 239. 251.]
412 cord_individual_obj[indivial_i, :] = [ 7. 10. 198. 208.]
413 cord_individual_obj[indivial_i, :] = [ 8. 11. 244. 255.]
414 cord_individual_obj[indivial_i, :] = [ 9. 12. 178. 190.]
415 cord_individual_obj[indivial_i, :] = [ 10. 14. 194. 208.]

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416 cord_individual_obj[indivial_i,:] = [ 11. 11. 218. 229.]
417 cord_individual_obj[indivial_i,:] = [ 12. 11. 229. 240.]
418 cord_individual_obj[indivial_i,:] = [ 13. 11. 187. 198.]
419 cord_individual_obj[indivial_i,:] = [ 14. 12. 190. 202.]
420 cord_individual_obj[indivial_i,:] = [ 15. 11. 264. 275.]
421 cord_individual_obj[indivial_i,:] = [ 16. 9. 209. 218.]
422 cord_individual_obj[indivial_i,:] = [ 17. 13. 222. 235.]
423 cord_individual_obj[indivial_i,:] = [ 18. 11. 249. 260.]
424 cord_individual_obj[indivial_i,:] = [ 19. 12. 294. 306.]
425 cord_individual_obj[indivial_i,:] = [ 20. 11. 165. 176.]
426 cord_individual_obj[indivial_i,:] = [ 21. 14. 236. 250.]
427 cord_individual_obj[indivial_i,:] = [ 22. 13. 240. 253.]
428 cord_individual_obj[indivial_i,:] = [ 23. 11. 164. 175.]
429 cord_individual_obj[indivial_i,:] = [ 24. 11. 217. 228.]
430
431 min(cord_individual_obj[:,3]) = 175.0
432 histol_G_best_iter[iter,3] = 175.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 11. 229. 240.]
437 cord_individual_obj[indivial_i,:] = [ 1. 9. 304. 313.]
438 cord_individual_obj[indivial_i,:] = [ 2. 11. 205. 216.]
439 cord_individual_obj[indivial_i,:] = [ 3. 9. 192. 201.]
440 cord_individual_obj[indivial_i,:] = [ 4. 12. 201. 213.]
441 cord_individual_obj[indivial_i,:] = [ 5. 11. 186. 197.]
442 cord_individual_obj[indivial_i,:] = [ 6. 12. 178. 190.]
443 cord_individual_obj[indivial_i,:] = [ 7. 10. 205. 215.]
444 cord_individual_obj[indivial_i,:] = [ 8. 10. 228. 238.]
445 cord_individual_obj[indivial_i,:] = [ 9. 12. 206. 218.]
446 cord_individual_obj[indivial_i,:] = [ 10. 14. 225. 239.]
447 cord_individual_obj[indivial_i,:] = [ 11. 10. 242. 252.]
448 cord_individual_obj[indivial_i,:] = [ 12. 14. 215. 229.]
449 cord_individual_obj[indivial_i,:] = [ 13. 11. 188. 199.]
450 cord_individual_obj[indivial_i,:] = [ 14. 12. 195. 207.]
451 cord_individual_obj[indivial_i,:] = [ 15. 11. 180. 191.]
452 cord_individual_obj[indivial_i,:] = [ 16. 11. 251. 262.]
453 cord_individual_obj[indivial_i,:] = [ 17. 10. 211. 221.]
454 cord_individual_obj[indivial_i,:] = [ 18. 10. 215. 225.]
455 cord_individual_obj[indivial_i,:] = [ 19. 11. 164. 175.]
456 cord_individual_obj[indivial_i,:] = [ 20. 10. 170. 180.]
457 cord_individual_obj[indivial_i,:] = [ 21. 13. 241. 254.]
458 cord_individual_obj[indivial_i,:] = [ 22. 13. 211. 224.]
459 cord_individual_obj[indivial_i,:] = [ 23. 12. 224. 236.]
460 cord_individual_obj[indivial_i,:] = [ 24. 12. 226. 238.]
461
462 min(cord_individual_obj[:,3]) = 175.0
463 histol_G_best_iter[iter,3] = 175.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 12. 192. 204.]
468 cord_individual_obj[indivial_i,:] = [ 1. 11. 164. 175.]
469 cord_individual_obj[indivial_i,:] = [ 2. 10. 268. 278.]
470 cord_individual_obj[indivial_i,:] = [ 3. 10. 191. 201.]
471 cord_individual_obj[indivial_i,:] = [ 4. 12. 231. 243.]
472 cord_individual_obj[indivial_i,:] = [ 5. 12. 249. 261.]
473 cord_individual_obj[indivial_i,:] = [ 6. 12. 255. 267.]
474 cord_individual_obj[indivial_i,:] = [ 7. 11. 280. 291.]
475 cord_individual_obj[indivial_i,:] = [ 8. 10. 265. 275.]
476 cord_individual_obj[indivial_i,:] = [ 9. 11. 256. 267.]
477 cord_individual_obj[indivial_i,:] = [ 10. 12. 244. 256.]
478 cord_individual_obj[indivial_i,:] = [ 11. 12. 241. 253.]
479 cord_individual_obj[indivial_i,:] = [ 12. 13. 228. 241.]
480 cord_individual_obj[indivial_i,:] = [ 13. 12. 238. 250.]
481 cord_individual_obj[indivial_i,:] = [ 14. 12. 215. 227.]
482 cord_individual_obj[indivial_i,:] = [ 15. 10. 238. 248.]
483 cord_individual_obj[indivial_i,:] = [ 16. 11. 221. 232.]
484 cord_individual_obj[indivial_i,:] = [ 17. 11. 315. 326.]
485 cord_individual_obj[indivial_i,:] = [ 18. 10. 174. 184.]
486 cord_individual_obj[indivial_i,:] = [ 19. 11. 248. 259.]
487 cord_individual_obj[indivial_i,:] = [ 20. 13. 254. 267.]
488 cord_individual_obj[indivial_i,:] = [ 21. 13. 193. 206.]
489 cord_individual_obj[indivial_i,:] = [ 22. 12. 217. 229.]
490 cord_individual_obj[indivial_i,:] = [ 23. 12. 224. 236.]
491 cord_individual_obj[indivial_i,:] = [ 24. 12. 190. 202.]
492
493 min(cord_individual_obj[:,3]) = 175.0
494 histol_G_best_iter[iter,3] = 175.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 11. 229. 240.]
499 cord_individual_obj[indivial_i,:] = [ 1. 10. 140. 150.]

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500 cord_individual_obj[indivial_i, :] = [ 2. 11. 266. 277.]
501 cord_individual_obj[indivial_i, :] = [ 3. 13. 211. 224.]
502 cord_individual_obj[indivial_i, :] = [ 4. 11. 214. 225.]
503 cord_individual_obj[indivial_i, :] = [ 5. 13. 215. 228.]
504 cord_individual_obj[indivial_i, :] = [ 6. 12. 249. 261.]
505 cord_individual_obj[indivial_i, :] = [ 7. 12. 212. 224.]
506 cord_individual_obj[indivial_i, :] = [ 8. 10. 141. 151.]
507 cord_individual_obj[indivial_i, :] = [ 9. 12. 176. 188.]
508 cord_individual_obj[indivial_i, :] = [ 10. 12. 201. 213.]
509 cord_individual_obj[indivial_i, :] = [ 11. 11. 278. 289.]
510 cord_individual_obj[indivial_i, :] = [ 12. 10. 163. 173.]
511 cord_individual_obj[indivial_i, :] = [ 13. 11. 181. 192.]
512 cord_individual_obj[indivial_i, :] = [ 14. 10. 179. 189.]
513 cord_individual_obj[indivial_i, :] = [ 15. 13. 267. 280.]
514 cord_individual_obj[indivial_i, :] = [ 16. 12. 195. 207.]
515 cord_individual_obj[indivial_i, :] = [ 17. 11. 164. 175.]
516 cord_individual_obj[indivial_i, :] = [ 18. 10. 202. 212.]
517 cord_individual_obj[indivial_i, :] = [ 19. 11. 204. 215.]
518 cord_individual_obj[indivial_i, :] = [ 20. 11. 180. 191.]
519 cord_individual_obj[indivial_i, :] = [ 21. 11. 210. 221.]
520 cord_individual_obj[indivial_i, :] = [ 22. 11. 188. 199.]
521 cord_individual_obj[indivial_i, :] = [ 23. 11. 241. 252.]
522 cord_individual_obj[indivial_i, :] = [ 24. 12. 173. 185.]
523
524 min(cord_individual_obj[:, 3]) = 150.0
525 histol_G_best_iter[iter, 3] = 150.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i, :] = [ 0. 12. 253. 265.]
530 cord_individual_obj[indivial_i, :] = [ 1. 11. 287. 298.]
531 cord_individual_obj[indivial_i, :] = [ 2. 14. 314. 328.]
532 cord_individual_obj[indivial_i, :] = [ 3. 11. 210. 221.]
533 cord_individual_obj[indivial_i, :] = [ 4. 14. 301. 315.]
534 cord_individual_obj[indivial_i, :] = [ 5. 9. 243. 252.]
535 cord_individual_obj[indivial_i, :] = [ 6. 12. 255. 267.]
536 cord_individual_obj[indivial_i, :] = [ 7. 11. 269. 280.]
537 cord_individual_obj[indivial_i, :] = [ 8. 11. 293. 304.]
538 cord_individual_obj[indivial_i, :] = [ 9. 12. 302. 314.]
539 cord_individual_obj[indivial_i, :] = [ 10. 11. 206. 217.]
540 cord_individual_obj[indivial_i, :] = [ 11. 10. 140. 150.]
541 cord_individual_obj[indivial_i, :] = [ 12. 11. 263. 274.]
542 cord_individual_obj[indivial_i, :] = [ 13. 10. 192. 202.]
543 cord_individual_obj[indivial_i, :] = [ 14. 9. 217. 226.]
544 cord_individual_obj[indivial_i, :] = [ 15. 10. 209. 219.]
545 cord_individual_obj[indivial_i, :] = [ 16. 11. 262. 273.]
546 cord_individual_obj[indivial_i, :] = [ 17. 12. 194. 206.]
547 cord_individual_obj[indivial_i, :] = [ 18. 11. 302. 313.]
548 cord_individual_obj[indivial_i, :] = [ 19. 11. 248. 259.]
549 cord_individual_obj[indivial_i, :] = [ 20. 13. 230. 243.]
550 cord_individual_obj[indivial_i, :] = [ 21. 12. 291. 303.]
551 cord_individual_obj[indivial_i, :] = [ 22. 10. 250. 260.]
552 cord_individual_obj[indivial_i, :] = [ 23. 11. 252. 263.]
553 cord_individual_obj[indivial_i, :] = [ 24. 10. 225. 235.]
554
555 min(cord_individual_obj[:, 3]) = 150.0
556 histol_G_best_iter[iter, 3] = 150.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i, :] = [ 0. 12. 223. 235.]
561 cord_individual_obj[indivial_i, :] = [ 1. 9. 248. 257.]
562 cord_individual_obj[indivial_i, :] = [ 2. 10. 140. 150.]
563 cord_individual_obj[indivial_i, :] = [ 3. 10. 255. 265.]
564 cord_individual_obj[indivial_i, :] = [ 4. 12. 229. 241.]
565 cord_individual_obj[indivial_i, :] = [ 5. 12. 252. 264.]
566 cord_individual_obj[indivial_i, :] = [ 6. 12. 291. 303.]
567 cord_individual_obj[indivial_i, :] = [ 7. 11. 264. 275.]
568 cord_individual_obj[indivial_i, :] = [ 8. 10. 209. 219.]
569 cord_individual_obj[indivial_i, :] = [ 9. 12. 243. 255.]
570 cord_individual_obj[indivial_i, :] = [ 10. 12. 245. 257.]
571 cord_individual_obj[indivial_i, :] = [ 11. 11. 287. 298.]
572 cord_individual_obj[indivial_i, :] = [ 12. 11. 254. 265.]
573 cord_individual_obj[indivial_i, :] = [ 13. 12. 187. 199.]
574 cord_individual_obj[indivial_i, :] = [ 14. 11. 262. 273.]
575 cord_individual_obj[indivial_i, :] = [ 15. 13. 217. 230.]
576 cord_individual_obj[indivial_i, :] = [ 16. 10. 237. 247.]
577 cord_individual_obj[indivial_i, :] = [ 17. 12. 249. 261.]
578 cord_individual_obj[indivial_i, :] = [ 18. 11. 242. 253.]
579 cord_individual_obj[indivial_i, :] = [ 19. 13. 311. 324.]
580 cord_individual_obj[indivial_i, :] = [ 20. 11. 276. 287.]
581 cord_individual_obj[indivial_i, :] = [ 21. 14. 254. 268.]
582 cord_individual_obj[indivial_i, :] = [ 22. 10. 226. 236.]
583 cord_individual_obj[indivial_i, :] = [ 23. 11. 202. 213.]

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584     cord_individual_obj[indivial_i, :] = [ 24. 10. 197. 207.]
585
586     min(cord_individual_obj[:, 3]) = 150.0
587     historl_G_best_iter[iter, 3] = 150.0
588 Begin iteration:
589
590 iter = 18
591     cord_individual_obj[indivial_i, :] = [ 0. 12. 240. 252.]
592     cord_individual_obj[indivial_i, :] = [ 1. 11. 246. 257.]
593     cord_individual_obj[indivial_i, :] = [ 2. 10. 183. 193.]
594     cord_individual_obj[indivial_i, :] = [ 3. 12. 249. 261.]
595     cord_individual_obj[indivial_i, :] = [ 4. 13. 245. 258.]
596     cord_individual_obj[indivial_i, :] = [ 5. 10. 212. 222.]
597     cord_individual_obj[indivial_i, :] = [ 6. 14. 180. 194.]
598     cord_individual_obj[indivial_i, :] = [ 7. 10. 308. 318.]
599     cord_individual_obj[indivial_i, :] = [ 8. 10. 230. 240.]
600     cord_individual_obj[indivial_i, :] = [ 9. 10. 250. 260.]
601     cord_individual_obj[indivial_i, :] = [ 10. 11. 253. 264.]
602     cord_individual_obj[indivial_i, :] = [ 11. 10. 210. 220.]
603     cord_individual_obj[indivial_i, :] = [ 12. 12. 290. 302.]
604     cord_individual_obj[indivial_i, :] = [ 13. 13. 224. 237.]
605     cord_individual_obj[indivial_i, :] = [ 14. 12. 277. 289.]
606     cord_individual_obj[indivial_i, :] = [ 15. 12. 219. 231.]
607     cord_individual_obj[indivial_i, :] = [ 16. 13. 269. 282.]
608     cord_individual_obj[indivial_i, :] = [ 17. 10. 251. 261.]
609     cord_individual_obj[indivial_i, :] = [ 18. 11. 258. 269.]
610     cord_individual_obj[indivial_i, :] = [ 19. 10. 140. 150.]
611     cord_individual_obj[indivial_i, :] = [ 20. 11. 323. 334.]
612     cord_individual_obj[indivial_i, :] = [ 21. 11. 262. 273.]
613     cord_individual_obj[indivial_i, :] = [ 22. 12. 297. 309.]
614     cord_individual_obj[indivial_i, :] = [ 23. 12. 309. 321.]
615     cord_individual_obj[indivial_i, :] = [ 24. 12. 219. 231.]
616
617     min(cord_individual_obj[:, 3]) = 150.0
618     historl_G_best_iter[iter, 3] = 150.0
619 Begin iteration:
620
621 iter = 19
622     cord_individual_obj[indivial_i, :] = [ 0. 12. 187. 199.]
623     cord_individual_obj[indivial_i, :] = [ 1. 13. 231. 244.]
624     cord_individual_obj[indivial_i, :] = [ 2. 9. 177. 186.]
625     cord_individual_obj[indivial_i, :] = [ 3. 10. 178. 188.]
626     cord_individual_obj[indivial_i, :] = [ 4. 11. 264. 275.]
627     cord_individual_obj[indivial_i, :] = [ 5. 9. 249. 258.]
628     cord_individual_obj[indivial_i, :] = [ 6. 13. 251. 264.]
629     cord_individual_obj[indivial_i, :] = [ 7. 10. 234. 244.]
630     cord_individual_obj[indivial_i, :] = [ 8. 12. 281. 293.]
631     cord_individual_obj[indivial_i, :] = [ 9. 10. 216. 226.]
632     cord_individual_obj[indivial_i, :] = [ 10. 11. 252. 263.]
633     cord_individual_obj[indivial_i, :] = [ 11. 12. 168. 180.]
634     cord_individual_obj[indivial_i, :] = [ 12. 12. 247. 259.]
635     cord_individual_obj[indivial_i, :] = [ 13. 11. 290. 301.]
636     cord_individual_obj[indivial_i, :] = [ 14. 11. 174. 185.]
637     cord_individual_obj[indivial_i, :] = [ 15. 13. 207. 220.]
638     cord_individual_obj[indivial_i, :] = [ 16. 9. 249. 258.]
639     cord_individual_obj[indivial_i, :] = [ 17. 11. 222. 233.]
640     cord_individual_obj[indivial_i, :] = [ 18. 13. 208. 221.]
641     cord_individual_obj[indivial_i, :] = [ 19. 13. 258. 271.]
642     cord_individual_obj[indivial_i, :] = [ 20. 10. 140. 150.]
643     cord_individual_obj[indivial_i, :] = [ 21. 13. 221. 234.]
644     cord_individual_obj[indivial_i, :] = [ 22. 12. 272. 284.]
645     cord_individual_obj[indivial_i, :] = [ 23. 14. 277. 291.]
646     cord_individual_obj[indivial_i, :] = [ 24. 10. 190. 200.]
647
648     min(cord_individual_obj[:, 3]) = 150.0
649     historl_G_best_iter[iter, 3] = 150.0
650 Begin iteration:
651
652 iter = 20
653     cord_individual_obj[indivial_i, :] = [ 0. 13. 237. 250.]
654     cord_individual_obj[indivial_i, :] = [ 1. 11. 253. 264.]
655     cord_individual_obj[indivial_i, :] = [ 2. 10. 226. 236.]
656     cord_individual_obj[indivial_i, :] = [ 3. 13. 215. 228.]
657     cord_individual_obj[indivial_i, :] = [ 4. 11. 213. 224.]
658     cord_individual_obj[indivial_i, :] = [ 5. 11. 225. 236.]
659     cord_individual_obj[indivial_i, :] = [ 6. 11. 226. 237.]
660     cord_individual_obj[indivial_i, :] = [ 7. 11. 293. 304.]
661     cord_individual_obj[indivial_i, :] = [ 8. 10. 253. 263.]
662     cord_individual_obj[indivial_i, :] = [ 9. 11. 271. 282.]
663     cord_individual_obj[indivial_i, :] = [ 10. 11. 223. 234.]
664     cord_individual_obj[indivial_i, :] = [ 11. 10. 287. 297.]
665     cord_individual_obj[indivial_i, :] = [ 12. 11. 196. 207.]
666     cord_individual_obj[indivial_i, :] = [ 13. 10. 140. 150.]
667     cord_individual_obj[indivial_i, :] = [ 14. 12. 220. 232.]

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668 cord_individual_obj[indivial_i,:] = [ 15. 11. 267. 278.]
669 cord_individual_obj[indivial_i,:] = [ 16. 14. 259. 273.]
670 cord_individual_obj[indivial_i,:] = [ 17. 12. 260. 272.]
671 cord_individual_obj[indivial_i,:] = [ 18. 9. 238. 247.]
672 cord_individual_obj[indivial_i,:] = [ 19. 11. 215. 226.]
673 cord_individual_obj[indivial_i,:] = [ 20. 10. 261. 271.]
674 cord_individual_obj[indivial_i,:] = [ 21. 12. 238. 250.]
675 cord_individual_obj[indivial_i,:] = [ 22. 9. 225. 234.]
676 cord_individual_obj[indivial_i,:] = [ 23. 10. 247. 257.]
677 cord_individual_obj[indivial_i,:] = [ 24. 10. 203. 213.]
678
679 min(cord_individual_obj[:, 3]) = 150.0
680 historl_G_best_iter[iter, 3] = 150.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 256.0
689 Proportion_of_area = 0.23703703703703705
690 BEST_CHROM =
691 berth: [17.5 16.5 10.5 25.5 14. 10. 10.5 4.5 24.5 20. 4.5 4. 13.5 16.5
692 19. 26.5 19.5 1.5 7. 13. ]
693 time: [8. 7. 6. 4. 8. 7. 2. 5. 8. 3. 3. 6. 2. 3. 1. 1. 0. 0. 0. 0.]
694 num_QC: [3. 4. 3. 2. 3. 3. 2. 7. 3. 2. 2. 5. 2. 2. 2. 3. 3. 1. 4. 4.]
695 Objective function values and some other indicators:
696 Obj0 = 10.00          Obj1 = 140.00        Obj0 + Obj1 = 150.00
697 Total movement of crane: 22.00
698 Total waiting time in berth position: 74.00
699 Total index of q during berthing: 1396.00
700 Specific arrangement for each vessel:
701 V_id: 0      li: 3.0           xi: 17.5           bow of i: 16.0           tail of i: 19.0           gama_i0: 8.0           gama_i1: 9
702 .0          gama_i1 + 1: 10.0       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: 9.0           xi: 16.5           bow of i: 12.0           tail of i: 21.0           gama_i0: 7.0           gama_i1: 7
705 .0          gama_i1 + 1: 8.0       gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 80.0         work
706 load_i: 80.0
707 V_id: 2      li: 5.0           xi: 10.5           bow of i: 8.0           tail of i: 13.0           gama_i0: 6.0           gama_i1: 6
708 .0          gama_i1 + 1: 7.0       gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 60.0         work
709 load_i: 60.0
710 V_id: 3      li: 7.0           xi: 25.5           bow of i: 22.0           tail of i: 29.0           gama_i0: 4.0           gama_i1: 7
711 .0          gama_i1 + 1: 8.0       gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 140.0        work
712 load_i: 140.0
713 V_id: 4      li: 4.0           xi: 14.0           bow of i: 12.0           tail of i: 16.0           gama_i0: 8.0           gama_i1: 1
714 .0          gama_i1 + 1: 11.0      gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 160.0        work
715 load_i: 160.0
716 V_id: 5      li: 4.0           xi: 10.0           bow of i: 8.0           tail of i: 12.0           gama_i0: 7.0           gama_i1: 9
717 .0          gama_i1 + 1: 10.0      gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 160.0        work
718 load_i: 160.0
719 V_id: 6      li: 3.0           xi: 10.5           bow of i: 9.0           tail of i: 12.0           gama_i0: 2.0           gama_i1: 5
720 .0          gama_i1 + 1: 6.0       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: 9.0           xi: 4.5            bow of i: 0.0           tail of i: 9.0           gama_i0: 5.0           gama_i1: 5
723 .0          gama_i1 + 1: 6.0       gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 140.0        work load_i:
724 140.0
725 V_id: 8      li: 7.0           xi: 24.5           bow of i: 21.0           tail of i: 28.0           gama_i0: 8.0           gama_i1: 9
726 .0          gama_i1 + 1: 10.0      gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 100.0        work
727 load_i: 100.0
728 V_id: 9      li: 4.0           xi: 20.0           bow of i: 18.0           tail of i: 22.0           gama_i0: 3.0           gama_i1: 6
729 .0          gama_i1 + 1: 7.0       gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 140.0        work
730 load_i: 140.0
731 V_id: 10     li: 9.0           xi: 4.5            bow of i: 0.0           tail of i: 9.0           gama_i0: 3.0           gama_i1: 4
732 .0          gama_i1 + 1: 5.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0         work load_i:
733 80.0
734 V_id: 11     li: 8.0           xi: 4.0            bow of i: 0.0           tail of i: 8.0           gama_i0: 6.0           gama_i1: 7
735 .0          gama_i1 + 1: 8.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 160.0        work load_i:
736 160.0
737 V_id: 12     li: 3.0           xi: 13.5           bow of i: 12.0           tail of i: 15.0           gama_i0: 2.0           gama_i1: 1
738 .0          gama_i1 + 1: 6.0       gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 140.0        work
739 load_i: 140.0
740 V_id: 13     li: 3.0           xi: 16.5           bow of i: 15.0           tail of i: 18.0           gama_i0: 3.0           gama_i1: 1
741 .0          gama_i1 + 1: 6.0       gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 100.0        work
742 load_i: 100.0
743 V_id: 14     li: 8.0           xi: 19.0           bow of i: 15.0           tail of i: 23.0           gama_i0: 1.0           gama_i1: 1
744 .0          gama_i1 + 1: 3.0       gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0         work
745 load_i: 80.0
746 V_id: 15     li: 7.0           xi: 26.5           bow of i: 23.0           tail of i: 30.0           gama_i0: 1.0           gama_i1: 1
747 .0          gama_i1 + 1: 4.0       gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 160.0        work
748 load_i: 160.0
749 V_id: 16     li: 9.0           xi: 19.5           bow of i: 15.0           tail of i: 24.0           gama_i0: 0.0           gama_i1: 1
750 .0          gama_i1 + 1: 1.0       gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 60.0         work
751 load_i: 60.0

```

unknown

718	V_id: 17	li: 3.0	xi: 1.5	bow of i: 0.0	tail of i: 3.0	gama_i0: 0.0	gama_i1: 2.0
	gama_i1 + 1: 3.0	gama_i1 - gama_i0: 2.0				demand_i: 60.0	work load_i:
	60.0	work load gap_i: 0					
719	V_id: 18	li: 8.0	xi: 7.0	bow of i: 3.0	tail of i: 11.0	gama_i0: 0.0	gama_i1: 1
.0	gama_i1 + 1: 2.0	gama_i1 - gama_i0: 1.0				demand_i: 140.0	work
720	V_id: 19	li: 4.0	xi: 13.0	bow of i: 11.0	tail of i: 15.0	gama_i0: 0.0	gama_i1:
: 1.0	gama_i1 + 1: 2.0	gama_i1 - gama_i0: 1.0				demand_i: 140.0	work
	load_i: 140.0	work load gap_i: 0					

721

722 Algorithm finished and the total CPU time: 546 s

723 End

724