

unknown

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80  cord_individual_obj[indivial_i,:] = [ 6. 5. 12. 17.]
81  cord_individual_obj[indivial_i,:] = [ 7. 4. 18. 22.]
82  cord_individual_obj[indivial_i,:] = [ 8. 4. 76. 80.]
83  cord_individual_obj[indivial_i,:] = [ 9. 4. 38. 42.]
84  cord_individual_obj[indivial_i,:] = [10. 5. 22. 27.]
85  cord_individual_obj[indivial_i,:] = [11. 6. 8. 14.]
86  cord_individual_obj[indivial_i,:] = [12. 3. 76. 79.]
87  cord_individual_obj[indivial_i,:] = [13. 5. 40. 45.]
88  cord_individual_obj[indivial_i,:] = [14. 6. 16. 22.]
89
90 min(cord_individual_obj[:,3]) = 14.0
91 historl_G_best_iter[iter, 3] = 14.0
92 Begin iteration:
93
94 iter = 3
95  cord_individual_obj[indivial_i,:] = [ 0. 6. 12. 18.]
96  cord_individual_obj[indivial_i,:] = [ 1. 6. 30. 36.]
97  cord_individual_obj[indivial_i,:] = [ 2. 4. 18. 22.]
98  cord_individual_obj[indivial_i,:] = [ 3. 3. 20. 23.]
99  cord_individual_obj[indivial_i,:] = [ 4. 6. 12. 18.]
100 cord_individual_obj[indivial_i,:] = [ 5. 3. 56. 59.]
101 cord_individual_obj[indivial_i,:] = [ 6. 6. 12. 18.]
102 cord_individual_obj[indivial_i,:] = [ 7. 6. 8. 14.]
103 cord_individual_obj[indivial_i,:] = [ 8. 6. 8. 14.]
104 cord_individual_obj[indivial_i,:] = [ 9. 5. 8. 13.]
105 cord_individual_obj[indivial_i,:] = [10. 5. 80. 85.]
106 cord_individual_obj[indivial_i,:] = [11. 6. 24. 30.]
107 cord_individual_obj[indivial_i,:] = [12. 6. 12. 18.]
108 cord_individual_obj[indivial_i,:] = [13. 3. 20. 23.]
109 cord_individual_obj[indivial_i,:] = [14. 3. 40. 43.]
110
111 min(cord_individual_obj[:,3]) = 13.0
112 historl_G_best_iter[iter, 3] = 13.0
113 Begin iteration:
114
115 iter = 4
116  cord_individual_obj[indivial_i,:] = [ 0. 4. 18. 22.]
117  cord_individual_obj[indivial_i,:] = [ 1. 5. 32. 37.]
118  cord_individual_obj[indivial_i,:] = [ 2. 5. 18. 23.]
119  cord_individual_obj[indivial_i,:] = [ 3. 5. 32. 37.]
120  cord_individual_obj[indivial_i,:] = [ 4. 5. 18. 23.]
121  cord_individual_obj[indivial_i,:] = [ 5. 4. 110. 114.]
122  cord_individual_obj[indivial_i,:] = [ 6. 6. 12. 18.]
123  cord_individual_obj[indivial_i,:] = [ 7. 4. 18. 22.]
124  cord_individual_obj[indivial_i,:] = [ 8. 5. 112. 117.]
125  cord_individual_obj[indivial_i,:] = [ 9. 5. 38. 43.]
126  cord_individual_obj[indivial_i,:] = [10. 5. 8. 13.]
127  cord_individual_obj[indivial_i,:] = [11. 5. 28. 33.]
128  cord_individual_obj[indivial_i,:] = [12. 5. 128. 133.]
129  cord_individual_obj[indivial_i,:] = [13. 5. 26. 31.]
130  cord_individual_obj[indivial_i,:] = [14. 3. 120. 123.]
131
132 min(cord_individual_obj[:,3]) = 13.0
133 historl_G_best_iter[iter, 3] = 13.0
134 Begin iteration:
135
136 iter = 5
137  cord_individual_obj[indivial_i,:] = [ 0. 5. 58. 63.]
138  cord_individual_obj[indivial_i,:] = [ 1. 4. 74. 78.]
139  cord_individual_obj[indivial_i,:] = [ 2. 5. 18. 23.]
140  cord_individual_obj[indivial_i,:] = [ 3. 3. 44. 47.]
141  cord_individual_obj[indivial_i,:] = [ 4. 3. 36. 39.]
142  cord_individual_obj[indivial_i,:] = [ 5. 3. 86. 89.]
143  cord_individual_obj[indivial_i,:] = [ 6. 4. 12. 16.]
144  cord_individual_obj[indivial_i,:] = [ 7. 4. 68. 72.]
145  cord_individual_obj[indivial_i,:] = [ 8. 3. 38. 41.]
146  cord_individual_obj[indivial_i,:] = [ 9. 4. 54. 58.]
147  cord_individual_obj[indivial_i,:] = [10. 3. 56. 59.]
148  cord_individual_obj[indivial_i,:] = [11. 3. 68. 71.]
149  cord_individual_obj[indivial_i,:] = [12. 5. 8. 13.]
150  cord_individual_obj[indivial_i,:] = [13. 5. 74. 79.]
151  cord_individual_obj[indivial_i,:] = [14. 5. 48. 53.]
152
153 min(cord_individual_obj[:,3]) = 13.0
154 historl_G_best_iter[iter, 3] = 13.0
155 Begin iteration:
156
157 iter = 6
158  cord_individual_obj[indivial_i,:] = [ 0. 4. 58. 62.]
159  cord_individual_obj[indivial_i,:] = [ 1. 4. 54. 58.]
160  cord_individual_obj[indivial_i,:] = [ 2. 5. 54. 59.]
161  cord_individual_obj[indivial_i,:] = [ 3. 4. 102. 106.]
162  cord_individual_obj[indivial_i,:] = [ 4. 4. 84. 88.]
163  cord_individual_obj[indivial_i,:] = [ 5. 5. 8. 13.]

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164 cord_individual_obj[indivial_i,:] = [ 6. 5. 76. 81.]
165 cord_individual_obj[indivial_i,:] = [ 7. 5. 96. 101.]
166 cord_individual_obj[indivial_i,:] = [ 8. 3. 32. 35.]
167 cord_individual_obj[indivial_i,:] = [ 9. 4. 100. 104.]
168 cord_individual_obj[indivial_i,:] = [10. 3. 60. 63.]
169 cord_individual_obj[indivial_i,:] = [11. 4. 70. 74.]
170 cord_individual_obj[indivial_i,:] = [12. 4. 26. 30.]
171 cord_individual_obj[indivial_i,:] = [13. 5. 60. 65.]
172 cord_individual_obj[indivial_i,:] = [14. 5. 102. 107.]
173
174 min(cord_individual_obj[:,3]) = 13.0
175 historl_G_best_iter[iter, 3] = 13.0
176 Begin iteration:
177
178 iter = 7
179 cord_individual_obj[indivial_i,:] = [ 0. 5. 54. 59.]
180 cord_individual_obj[indivial_i,:] = [ 1. 5. 24. 29.]
181 cord_individual_obj[indivial_i,:] = [ 2. 5. 32. 37.]
182 cord_individual_obj[indivial_i,:] = [ 3. 5. 44. 49.]
183 cord_individual_obj[indivial_i,:] = [ 4. 5. 92. 97.]
184 cord_individual_obj[indivial_i,:] = [ 5. 5. 68. 73.]
185 cord_individual_obj[indivial_i,:] = [ 6. 3. 44. 47.]
186 cord_individual_obj[indivial_i,:] = [ 7. 5. 104. 109.]
187 cord_individual_obj[indivial_i,:] = [ 8. 5. 18. 23.]
188 cord_individual_obj[indivial_i,:] = [ 9. 5. 32. 37.]
189 cord_individual_obj[indivial_i,:] = [10. 5. 32. 37.]
190 cord_individual_obj[indivial_i,:] = [11. 5. 70. 75.]
191 cord_individual_obj[indivial_i,:] = [12. 6. 12. 18.]
192 cord_individual_obj[indivial_i,:] = [13. 5. 26. 31.]
193 cord_individual_obj[indivial_i,:] = [14. 5. 8. 13.]
194
195 min(cord_individual_obj[:,3]) = 13.0
196 historl_G_best_iter[iter, 3] = 13.0
197 Begin iteration:
198
199 iter = 8
200 cord_individual_obj[indivial_i,:] = [ 0. 4. 54. 58.]
201 cord_individual_obj[indivial_i,:] = [ 1. 4. 74. 78.]
202 cord_individual_obj[indivial_i,:] = [ 2. 5. 18. 23.]
203 cord_individual_obj[indivial_i,:] = [ 3. 4. 44. 48.]
204 cord_individual_obj[indivial_i,:] = [ 4. 5. 58. 63.]
205 cord_individual_obj[indivial_i,:] = [ 5. 5. 54. 59.]
206 cord_individual_obj[indivial_i,:] = [ 6. 4. 12. 16.]
207 cord_individual_obj[indivial_i,:] = [ 7. 5. 8. 13.]
208 cord_individual_obj[indivial_i,:] = [ 8. 6. 8. 14.]
209 cord_individual_obj[indivial_i,:] = [ 9. 5. 32. 37.]
210 cord_individual_obj[indivial_i,:] = [10. 4. 32. 36.]
211 cord_individual_obj[indivial_i,:] = [11. 4. 70. 74.]
212 cord_individual_obj[indivial_i,:] = [12. 6. 24. 30.]
213 cord_individual_obj[indivial_i,:] = [13. 5. 32. 37.]
214 cord_individual_obj[indivial_i,:] = [14. 5. 70. 75.]
215
216 min(cord_individual_obj[:,3]) = 13.0
217 historl_G_best_iter[iter, 3] = 13.0
218 Begin iteration:
219
220 iter = 9
221 cord_individual_obj[indivial_i,:] = [ 0. 5. 70. 75.]
222 cord_individual_obj[indivial_i,:] = [ 1. 5. 8. 13.]
223 cord_individual_obj[indivial_i,:] = [ 2. 5. 84. 89.]
224 cord_individual_obj[indivial_i,:] = [ 3. 3. 124. 127.]
225 cord_individual_obj[indivial_i,:] = [ 4. 4. 58. 62.]
226 cord_individual_obj[indivial_i,:] = [ 5. 5. 104. 109.]
227 cord_individual_obj[indivial_i,:] = [ 6. 4. 116. 120.]
228 cord_individual_obj[indivial_i,:] = [ 7. 5. 84. 89.]
229 cord_individual_obj[indivial_i,:] = [ 8. 6. 8. 14.]
230 cord_individual_obj[indivial_i,:] = [ 9. 3. 154. 157.]
231 cord_individual_obj[indivial_i,:] = [10. 3. 90. 93.]
232 cord_individual_obj[indivial_i,:] = [11. 5. 54. 59.]
233 cord_individual_obj[indivial_i,:] = [12. 4. 64. 68.]
234 cord_individual_obj[indivial_i,:] = [13. 5. 100. 105.]
235 cord_individual_obj[indivial_i,:] = [14. 5. 36. 41.]
236
237 min(cord_individual_obj[:,3]) = 13.0
238 historl_G_best_iter[iter, 3] = 13.0
239 Begin iteration:
240
241 iter = 10
242 cord_individual_obj[indivial_i,:] = [ 0. 4. 54. 58.]
243 cord_individual_obj[indivial_i,:] = [ 1. 4. 60. 64.]
244 cord_individual_obj[indivial_i,:] = [ 2. 5. 32. 37.]
245 cord_individual_obj[indivial_i,:] = [ 3. 3. 44. 47.]
246 cord_individual_obj[indivial_i,:] = [ 4. 3. 58. 61.]
247 cord_individual_obj[indivial_i,:] = [ 5. 5. 68. 73.]

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248 cord_individual_obj[indivial_i,:] = [ 6. 4. 44. 48.]
249 cord_individual_obj[indivial_i,:] = [ 7. 5. 84. 89.]
250 cord_individual_obj[indivial_i,:] = [ 8. 4. 18. 22.]
251 cord_individual_obj[indivial_i,:] = [ 9. 5. 8. 13.]
252 cord_individual_obj[indivial_i,:] = [10. 5. 56. 61.]
253 cord_individual_obj[indivial_i,:] = [11. 4. 70. 74.]
254 cord_individual_obj[indivial_i,:] = [12. 5. 26. 31.]
255 cord_individual_obj[indivial_i,:] = [13. 5. 66. 71.]
256 cord_individual_obj[indivial_i,:] = [14. 5. 52. 57.]
257
258 min(cord_individual_obj[:,3]) = 13.0
259 historl_G_best_iter[iter, 3] = 13.0
260 Begin iteration:
261
262 iter = 11
263 cord_individual_obj[indivial_i,:] = [ 0. 5. 70. 75.]
264 cord_individual_obj[indivial_i,:] = [ 1. 5. 60. 65.]
265 cord_individual_obj[indivial_i,:] = [ 2. 5. 32. 37.]
266 cord_individual_obj[indivial_i,:] = [ 3. 5. 80. 85.]
267 cord_individual_obj[indivial_i,:] = [ 4. 3. 58. 61.]
268 cord_individual_obj[indivial_i,:] = [ 5. 5. 58. 63.]
269 cord_individual_obj[indivial_i,:] = [ 6. 3. 120. 123.]
270 cord_individual_obj[indivial_i,:] = [ 7. 5. 8. 13.]
271 cord_individual_obj[indivial_i,:] = [ 8. 4. 18. 22.]
272 cord_individual_obj[indivial_i,:] = [ 9. 4. 38. 42.]
273 cord_individual_obj[indivial_i,:] = [10. 3. 32. 35.]
274 cord_individual_obj[indivial_i,:] = [11. 4. 70. 74.]
275 cord_individual_obj[indivial_i,:] = [12. 4. 44. 48.]
276 cord_individual_obj[indivial_i,:] = [13. 5. 42. 47.]
277 cord_individual_obj[indivial_i,:] = [14. 5. 38. 43.]
278
279 min(cord_individual_obj[:,3]) = 13.0
280 historl_G_best_iter[iter, 3] = 13.0
281 Begin iteration:
282
283 iter = 12
284 cord_individual_obj[indivial_i,:] = [ 0. 4. 58. 62.]
285 cord_individual_obj[indivial_i,:] = [ 1. 5. 60. 65.]
286 cord_individual_obj[indivial_i,:] = [ 2. 5. 32. 37.]
287 cord_individual_obj[indivial_i,:] = [ 3. 3. 60. 63.]
288 cord_individual_obj[indivial_i,:] = [ 4. 4. 62. 66.]
289 cord_individual_obj[indivial_i,:] = [ 5. 5. 68. 73.]
290 cord_individual_obj[indivial_i,:] = [ 6. 5. 8. 13.]
291 cord_individual_obj[indivial_i,:] = [ 7. 5. 84. 89.]
292 cord_individual_obj[indivial_i,:] = [ 8. 3. 32. 35.]
293 cord_individual_obj[indivial_i,:] = [ 9. 5. 86. 91.]
294 cord_individual_obj[indivial_i,:] = [10. 3. 84. 87.]
295 cord_individual_obj[indivial_i,:] = [11. 5. 74. 79.]
296 cord_individual_obj[indivial_i,:] = [12. 4. 38. 42.]
297 cord_individual_obj[indivial_i,:] = [13. 5. 60. 65.]
298 cord_individual_obj[indivial_i,:] = [14. 5. 18. 23.]
299
300 min(cord_individual_obj[:,3]) = 13.0
301 historl_G_best_iter[iter, 3] = 13.0
302 Begin iteration:
303
304 iter = 13
305 cord_individual_obj[indivial_i,:] = [ 0. 4. 58. 62.]
306 cord_individual_obj[indivial_i,:] = [ 1. 4. 64. 68.]
307 cord_individual_obj[indivial_i,:] = [ 2. 5. 8. 13.]
308 cord_individual_obj[indivial_i,:] = [ 3. 3. 56. 59.]
309 cord_individual_obj[indivial_i,:] = [ 4. 3. 60. 63.]
310 cord_individual_obj[indivial_i,:] = [ 5. 5. 58. 63.]
311 cord_individual_obj[indivial_i,:] = [ 6. 3. 120. 123.]
312 cord_individual_obj[indivial_i,:] = [ 7. 5. 60. 65.]
313 cord_individual_obj[indivial_i,:] = [ 8. 3. 44. 47.]
314 cord_individual_obj[indivial_i,:] = [ 9. 5. 8. 13.]
315 cord_individual_obj[indivial_i,:] = [10. 3. 32. 35.]
316 cord_individual_obj[indivial_i,:] = [11. 4. 70. 74.]
317 cord_individual_obj[indivial_i,:] = [12. 4. 116. 120.]
318 cord_individual_obj[indivial_i,:] = [13. 5. 66. 71.]
319 cord_individual_obj[indivial_i,:] = [14. 5. 70. 75.]
320
321 min(cord_individual_obj[:,3]) = 13.0
322 historl_G_best_iter[iter, 3] = 13.0
323 Begin iteration:
324
325 iter = 14
326 cord_individual_obj[indivial_i,:] = [ 0. 4. 36. 40.]
327 cord_individual_obj[indivial_i,:] = [ 1. 4. 48. 52.]
328 cord_individual_obj[indivial_i,:] = [ 2. 5. 18. 23.]
329 cord_individual_obj[indivial_i,:] = [ 3. 4. 18. 22.]
330 cord_individual_obj[indivial_i,:] = [ 4. 4. 36. 40.]
331 cord_individual_obj[indivial_i,:] = [ 5. 5. 12. 17.]

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332 cord_individual_obj[indivial_i,:] = [ 6. 5. 8. 13.]
333 cord_individual_obj[indivial_i,:] = [ 7. 5. 32. 37.]
334 cord_individual_obj[indivial_i,:] = [ 8. 6. 8. 14.]
335 cord_individual_obj[indivial_i,:] = [ 9. 6. 8. 14.]
336 cord_individual_obj[indivial_i,:] = [10. 4. 26. 30.]
337 cord_individual_obj[indivial_i,:] = [11. 4. 18. 22.]
338 cord_individual_obj[indivial_i,:] = [12. 6. 12. 18.]
339 cord_individual_obj[indivial_i,:] = [13. 5. 12. 17.]
340 cord_individual_obj[indivial_i,:] = [14. 5. 18. 23.]
341
342 min(cord_individual_obj[:,3]) = 13.0
343 historl_G_best_iter[iter, 3] = 13.0
344 Begin iteration:
345
346 iter = 15
347 cord_individual_obj[indivial_i,:] = [ 0. 5. 36. 41.]
348 cord_individual_obj[indivial_i,:] = [ 1. 5. 8. 13.]
349 cord_individual_obj[indivial_i,:] = [ 2. 6. 8. 14.]
350 cord_individual_obj[indivial_i,:] = [ 3. 5. 18. 23.]
351 cord_individual_obj[indivial_i,:] = [ 4. 3. 20. 23.]
352 cord_individual_obj[indivial_i,:] = [ 5. 5. 12. 17.]
353 cord_individual_obj[indivial_i,:] = [ 6. 4. 12. 16.]
354 cord_individual_obj[indivial_i,:] = [ 7. 5. 54. 59.]
355 cord_individual_obj[indivial_i,:] = [ 8. 5. 18. 23.]
356 cord_individual_obj[indivial_i,:] = [ 9. 6. 44. 50.]
357 cord_individual_obj[indivial_i,:] = [10. 6. 24. 30.]
358 cord_individual_obj[indivial_i,:] = [11. 5. 26. 31.]
359 cord_individual_obj[indivial_i,:] = [12. 5. 104. 109.]
360 cord_individual_obj[indivial_i,:] = [13. 5. 12. 17.]
361 cord_individual_obj[indivial_i,:] = [14. 5. 22. 27.]
362
363 min(cord_individual_obj[:,3]) = 13.0
364 historl_G_best_iter[iter, 3] = 13.0
365 Begin iteration:
366
367 iter = 16
368 cord_individual_obj[indivial_i,:] = [ 0. 4. 44. 48.]
369 cord_individual_obj[indivial_i,:] = [ 1. 5. 40. 45.]
370 cord_individual_obj[indivial_i,:] = [ 2. 5. 44. 49.]
371 cord_individual_obj[indivial_i,:] = [ 3. 5. 44. 49.]
372 cord_individual_obj[indivial_i,:] = [ 4. 4. 20. 24.]
373 cord_individual_obj[indivial_i,:] = [ 5. 5. 36. 41.]
374 cord_individual_obj[indivial_i,:] = [ 6. 5. 18. 23.]
375 cord_individual_obj[indivial_i,:] = [ 7. 5. 60. 65.]
376 cord_individual_obj[indivial_i,:] = [ 8. 4. 18. 22.]
377 cord_individual_obj[indivial_i,:] = [ 9. 5. 42. 47.]
378 cord_individual_obj[indivial_i,:] = [10. 5. 36. 41.]
379 cord_individual_obj[indivial_i,:] = [11. 4. 20. 24.]
380 cord_individual_obj[indivial_i,:] = [12. 5. 8. 13.]
381 cord_individual_obj[indivial_i,:] = [13. 5. 28. 33.]
382 cord_individual_obj[indivial_i,:] = [14. 5. 36. 41.]
383
384 min(cord_individual_obj[:,3]) = 13.0
385 historl_G_best_iter[iter, 3] = 13.0
386 Begin iteration:
387
388 iter = 17
389 cord_individual_obj[indivial_i,:] = [ 0. 4. 36. 40.]
390 cord_individual_obj[indivial_i,:] = [ 1. 4. 20. 24.]
391 cord_individual_obj[indivial_i,:] = [ 2. 5. 18. 23.]
392 cord_individual_obj[indivial_i,:] = [ 3. 4. 18. 22.]
393 cord_individual_obj[indivial_i,:] = [ 4. 5. 42. 47.]
394 cord_individual_obj[indivial_i,:] = [ 5. 5. 20. 25.]
395 cord_individual_obj[indivial_i,:] = [ 6. 4. 12. 16.]
396 cord_individual_obj[indivial_i,:] = [ 7. 5. 8. 13.]
397 cord_individual_obj[indivial_i,:] = [ 8. 4. 18. 22.]
398 cord_individual_obj[indivial_i,:] = [ 9. 4. 18. 22.]
399 cord_individual_obj[indivial_i,:] = [10. 5. 36. 41.]
400 cord_individual_obj[indivial_i,:] = [11. 4. 48. 52.]
401 cord_individual_obj[indivial_i,:] = [12. 6. 12. 18.]
402 cord_individual_obj[indivial_i,:] = [13. 5. 20. 25.]
403 cord_individual_obj[indivial_i,:] = [14. 5. 24. 29.]
404
405 min(cord_individual_obj[:,3]) = 13.0
406 historl_G_best_iter[iter, 3] = 13.0
407 Begin iteration:
408
409 iter = 18
410 cord_individual_obj[indivial_i,:] = [ 0. 4. 36. 40.]
411 cord_individual_obj[indivial_i,:] = [ 1. 4. 48. 52.]
412 cord_individual_obj[indivial_i,:] = [ 2. 5. 24. 29.]
413 cord_individual_obj[indivial_i,:] = [ 3. 4. 36. 40.]
414 cord_individual_obj[indivial_i,:] = [ 4. 4. 36. 40.]
415 cord_individual_obj[indivial_i,:] = [ 5. 5. 20. 25.]

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416 cord_individual_obj[indivial_i, :] = [ 6. 5. 12. 17.]
417 cord_individual_obj[indivial_i, :] = [ 7. 5. 54. 59.]
418 cord_individual_obj[indivial_i, :] = [ 8. 4. 52. 56.]
419 cord_individual_obj[indivial_i, :] = [ 9. 4. 12. 16.]
420 cord_individual_obj[indivial_i, :] = [10. 4. 64. 68.]
421 cord_individual_obj[indivial_i, :] = [11. 5. 8. 13.]
422 cord_individual_obj[indivial_i, :] = [12. 4. 36. 40.]
423 cord_individual_obj[indivial_i, :] = [13. 5. 36. 41.]
424 cord_individual_obj[indivial_i, :] = [14. 5. 40. 45.]
425
426 min(cord_individual_obj[:, 3]) = 13.0
427 historl_G_best_iter[iter, 3] = 13.0
428 Begin iteration:
429
430 iter = 19
431 cord_individual_obj[indivial_i, :] = [ 0. 5. 20. 25.]
432 cord_individual_obj[indivial_i, :] = [ 1. 5. 8. 13.]
433 cord_individual_obj[indivial_i, :] = [ 2. 5. 40. 45.]
434 cord_individual_obj[indivial_i, :] = [ 3. 4. 18. 22.]
435 cord_individual_obj[indivial_i, :] = [ 4. 3. 20. 23.]
436 cord_individual_obj[indivial_i, :] = [ 5. 5. 26. 31.]
437 cord_individual_obj[indivial_i, :] = [ 6. 3. 32. 35.]
438 cord_individual_obj[indivial_i, :] = [ 7. 5. 18. 23.]
439 cord_individual_obj[indivial_i, :] = [ 8. 3. 20. 23.]
440 cord_individual_obj[indivial_i, :] = [ 9. 5. 20. 25.]
441 cord_individual_obj[indivial_i, :] = [10. 5. 8. 13.]
442 cord_individual_obj[indivial_i, :] = [11. 4. 48. 52.]
443 cord_individual_obj[indivial_i, :] = [12. 6. 8. 14.]
444 cord_individual_obj[indivial_i, :] = [13. 5. 36. 41.]
445 cord_individual_obj[indivial_i, :] = [14. 5. 26. 31.]
446
447 min(cord_individual_obj[:, 3]) = 13.0
448 historl_G_best_iter[iter, 3] = 13.0
449 Begin iteration:
450
451 iter = 20
452 cord_individual_obj[indivial_i, :] = [ 0. 4. 8. 12.]
453 cord_individual_obj[indivial_i, :] = [ 1. 4. 20. 24.]
454 cord_individual_obj[indivial_i, :] = [ 2. 5. 18. 23.]
455 cord_individual_obj[indivial_i, :] = [ 3. 4. 44. 48.]
456 cord_individual_obj[indivial_i, :] = [ 4. 5. 40. 45.]
457 cord_individual_obj[indivial_i, :] = [ 5. 5. 16. 21.]
458 cord_individual_obj[indivial_i, :] = [ 6. 4. 8. 12.]
459 cord_individual_obj[indivial_i, :] = [ 7. 5. 36. 41.]
460 cord_individual_obj[indivial_i, :] = [ 8. 6. 18. 24.]
461 cord_individual_obj[indivial_i, :] = [ 9. 4. 64. 68.]
462 cord_individual_obj[indivial_i, :] = [10. 5. 26. 31.]
463 cord_individual_obj[indivial_i, :] = [11. 5. 8. 13.]
464 cord_individual_obj[indivial_i, :] = [12. 6. 12. 18.]
465 cord_individual_obj[indivial_i, :] = [13. 5. 46. 51.]
466 cord_individual_obj[indivial_i, :] = [14. 5. 18. 23.]
467
468 min(cord_individual_obj[:, 3]) = 12.0
469 historl_G_best_iter[iter, 3] = 12.0
470 Iteration calculate over
471
472
473
474
475 All item are in Bin and:
476 Bin area = 1080
477 Real_area = 91.0
478 Proportion_of_area = 0.08425925925925926
479 BEST_CHROM =
480     berth: [ 2.5 26. 15. 20.5 6.5 10. ]
481     time: [ 0. 0. 0. 0. 0. ]
482     num_QC: [ 5. 2. 4. 2. 2. 3. ]
483 Objective function values and some other indicators:
484 Obj0 = 4.00          Obj1 = 8.00          Obj0 + Obj1 = 12.00
485 Total movement of crane: 8.00
486 Total waiting time in berth position: 0.00
487 Total index of q during berthing: 536.00
488 Specific arrangement for each vessel:
489     V_id: 0           li: 5.0           xi: 2.5           bow of i: 0.0           tail of i: 5.0           gama_i0: 0.0           gama_i1: 0.0
490             gama_i1 + 1: 1.0           gama_i1 - gama_i0: 0.0           duration_time_i: 1.0           demand_i: 80.0           work load_i:
491             work load gap_i: 0
490     V_id: 1           li: 6.0           xi: 26.0           bow of i: 23.0           tail of i: 29.0           gama_i0: 0.0           gama_i1: 2
491             gama_i1 + 1: 3.0           gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 120.0           work
491     V_id: 2           li: 6.0           xi: 15.0           bow of i: 12.0           tail of i: 18.0           gama_i0: 0.0           gama_i1: 3
491             gama_i1 + 1: 4.0           gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 260.0           work
492     V_id: 3           li: 5.0           xi: 20.5           bow of i: 18.0           tail of i: 23.0           gama_i0: 0.0           gama_i1: 1
492             gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work

```

unknown

```
492 load_i: 80.0      work load gap_i: 0
493   V_id: 4          li: 3.0           xi: 6.5           bow of i: 5.0           tail of i: 8.0           gama_i0: 0.0           gama_i1: 4.0
        gama_i1 + 1: 5.0       gama_i1 - gama_i0: 4.0
200.0      work load gap_i: 0
494   V_id: 5          li: 4.0           xi: 10.0          bow of i: 8.0           tail of i: 12.0          gama_i0: 0.0           gama_i1: 3
        .0            gama_i1 + 1: 4.0       gama_i1 - gama_i0: 3.0
load_i: 220.0      work load gap_i: 0
495
496 Algorithm finished and the total CPU time: 103 s
497 End
498
```