

unknown

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80 cord_individual_obj[indivial_i,:] = [17. 5. 28. 33.]
81 cord_individual_obj[indivial_i,:] = [18. 6. 50. 56.]
82 cord_individual_obj[indivial_i,:] = [19. 6. 56. 62.]
83 cord_individual_obj[indivial_i,:] = [20. 6. 8. 14.]
84 cord_individual_obj[indivial_i,:] = [21. 5. 28. 33.]
85 cord_individual_obj[indivial_i,:] = [22. 4. 12. 16.]
86 cord_individual_obj[indivial_i,:] = [23. 5. 54. 59.]
87 cord_individual_obj[indivial_i,:] = [24. 4. 8. 12.]
88
89 min(cord_individual_obj[:,3]) = 12.0
90 historl_G_best_iter[iter,3] = 12.0
91 Begin iteration:
92
93 iter = 2
94 cord_individual_obj[indivial_i,:] = [ 0. 6. 28. 34.]
95 cord_individual_obj[indivial_i,:] = [ 1. 6. 24. 30.]
96 cord_individual_obj[indivial_i,:] = [ 2. 5. 30. 35.]
97 cord_individual_obj[indivial_i,:] = [ 3. 6. 16. 22.]
98 cord_individual_obj[indivial_i,:] = [ 4. 5. 28. 33.]
99 cord_individual_obj[indivial_i,:] = [ 5. 5. 52. 57.]
100 cord_individual_obj[indivial_i,:] = [ 6. 4. 50. 54.]
101 cord_individual_obj[indivial_i,:] = [ 7. 4. 8. 12.]
102 cord_individual_obj[indivial_i,:] = [ 8. 5. 42. 47.]
103 cord_individual_obj[indivial_i,:] = [ 9. 6. 48. 54.]
104 cord_individual_obj[indivial_i,:] = [10. 6. 50. 56.]
105 cord_individual_obj[indivial_i,:] = [11. 6. 38. 44.]
106 cord_individual_obj[indivial_i,:] = [12. 6. 28. 34.]
107 cord_individual_obj[indivial_i,:] = [13. 4. 30. 34.]
108 cord_individual_obj[indivial_i,:] = [14. 4. 12. 16.]
109 cord_individual_obj[indivial_i,:] = [15. 4. 24. 28.]
110 cord_individual_obj[indivial_i,:] = [16. 5. 16. 21.]
111 cord_individual_obj[indivial_i,:] = [17. 5. 32. 37.]
112 cord_individual_obj[indivial_i,:] = [18. 6. 16. 22.]
113 cord_individual_obj[indivial_i,:] = [19. 6. 44. 50.]
114 cord_individual_obj[indivial_i,:] = [20. 6. 46. 52.]
115 cord_individual_obj[indivial_i,:] = [21. 4. 86. 90.]
116 cord_individual_obj[indivial_i,:] = [22. 6. 44. 50.]
117 cord_individual_obj[indivial_i,:] = [23. 6. 40. 46.]
118 cord_individual_obj[indivial_i,:] = [24. 6. 44. 50.]
119
120 min(cord_individual_obj[:,3]) = 12.0
121 historl_G_best_iter[iter,3] = 12.0
122 Begin iteration:
123
124 iter = 3
125 cord_individual_obj[indivial_i,:] = [ 0. 6. 24. 30.]
126 cord_individual_obj[indivial_i,:] = [ 1. 6. 44. 50.]
127 cord_individual_obj[indivial_i,:] = [ 2. 4. 28. 32.]
128 cord_individual_obj[indivial_i,:] = [ 3. 6. 42. 48.]
129 cord_individual_obj[indivial_i,:] = [ 4. 5. 46. 51.]
130 cord_individual_obj[indivial_i,:] = [ 5. 5. 34. 39.]
131 cord_individual_obj[indivial_i,:] = [ 6. 4. 12. 16.]
132 cord_individual_obj[indivial_i,:] = [ 7. 4. 30. 34.]
133 cord_individual_obj[indivial_i,:] = [ 8. 6. 62. 68.]
134 cord_individual_obj[indivial_i,:] = [ 9. 6. 12. 18.]
135 cord_individual_obj[indivial_i,:] = [10. 4. 38. 42.]
136 cord_individual_obj[indivial_i,:] = [11. 6. 24. 30.]
137 cord_individual_obj[indivial_i,:] = [12. 4. 18. 22.]
138 cord_individual_obj[indivial_i,:] = [13. 4. 32. 36.]
139 cord_individual_obj[indivial_i,:] = [14. 5. 12. 17.]
140 cord_individual_obj[indivial_i,:] = [15. 4. 44. 48.]
141 cord_individual_obj[indivial_i,:] = [16. 6. 16. 22.]
142 cord_individual_obj[indivial_i,:] = [17. 4. 12. 16.]
143 cord_individual_obj[indivial_i,:] = [18. 5. 12. 17.]
144 cord_individual_obj[indivial_i,:] = [19. 6. 66. 72.]
145 cord_individual_obj[indivial_i,:] = [20. 5. 52. 57.]
146 cord_individual_obj[indivial_i,:] = [21. 4. 8. 12.]
147 cord_individual_obj[indivial_i,:] = [22. 6. 24. 30.]
148 cord_individual_obj[indivial_i,:] = [23. 6. 40. 46.]
149 cord_individual_obj[indivial_i,:] = [24. 4. 92. 96.]
150
151 min(cord_individual_obj[:,3]) = 12.0
152 historl_G_best_iter[iter,3] = 12.0
153 Begin iteration:
154
155 iter = 4
156 cord_individual_obj[indivial_i,:] = [ 0. 6. 24. 30.]
157 cord_individual_obj[indivial_i,:] = [ 1. 4. 38. 42.]
158 cord_individual_obj[indivial_i,:] = [ 2. 4. 44. 48.]
159 cord_individual_obj[indivial_i,:] = [ 3. 6. 36. 42.]
160 cord_individual_obj[indivial_i,:] = [ 4. 5. 24. 29.]
161 cord_individual_obj[indivial_i,:] = [ 5. 5. 26. 31.]
162 cord_individual_obj[indivial_i,:] = [ 6. 4. 58. 62.]
163 cord_individual_obj[indivial_i,:] = [ 7. 4. 18. 22.]

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164 cord_individual_obj[indivial_i,:] = [ 8. 5. 72. 77.]
165 cord_individual_obj[indivial_i,:] = [ 9. 6. 36. 42.]
166 cord_individual_obj[indivial_i,:] = [10. 4. 32. 36.]
167 cord_individual_obj[indivial_i,:] = [11. 6. 30. 36.]
168 cord_individual_obj[indivial_i,:] = [12. 6. 44. 50.]
169 cord_individual_obj[indivial_i,:] = [13. 4. 52. 56.]
170 cord_individual_obj[indivial_i,:] = [14. 4. 24. 28.]
171 cord_individual_obj[indivial_i,:] = [15. 4. 54. 58.]
172 cord_individual_obj[indivial_i,:] = [16. 5. 16. 21.]
173 cord_individual_obj[indivial_i,:] = [17. 4. 12. 16.]
174 cord_individual_obj[indivial_i,:] = [18. 6. 12. 18.]
175 cord_individual_obj[indivial_i,:] = [19. 4. 44. 48.]
176 cord_individual_obj[indivial_i,:] = [20. 4. 18. 22.]
177 cord_individual_obj[indivial_i,:] = [21. 5. 52. 57.]
178 cord_individual_obj[indivial_i,:] = [22. 6. 8. 14.]
179 cord_individual_obj[indivial_i,:] = [23. 5. 62. 67.]
180 cord_individual_obj[indivial_i,:] = [24. 4. 8. 12.]
181
182 min(cord_individual_obj[:,3]) = 12.0
183 historl_G_best_iter[iter,3] = 12.0
184 Begin iteration:
185
186 iter = 5
187 cord_individual_obj[indivial_i,:] = [ 0. 6. 24. 30.]
188 cord_individual_obj[indivial_i,:] = [ 1. 6. 16. 22.]
189 cord_individual_obj[indivial_i,:] = [ 2. 4. 20. 24.]
190 cord_individual_obj[indivial_i,:] = [ 3. 6. 42. 48.]
191 cord_individual_obj[indivial_i,:] = [ 4. 5. 20. 25.]
192 cord_individual_obj[indivial_i,:] = [ 5. 5. 34. 39.]
193 cord_individual_obj[indivial_i,:] = [ 6. 4. 30. 34.]
194 cord_individual_obj[indivial_i,:] = [ 7. 4. 12. 16.]
195 cord_individual_obj[indivial_i,:] = [ 8. 4. 8. 12.]
196 cord_individual_obj[indivial_i,:] = [ 9. 6. 12. 18.]
197 cord_individual_obj[indivial_i,:] = [10. 4. 38. 42.]
198 cord_individual_obj[indivial_i,:] = [11. 6. 24. 30.]
199 cord_individual_obj[indivial_i,:] = [12. 4. 24. 28.]
200 cord_individual_obj[indivial_i,:] = [13. 4. 32. 36.]
201 cord_individual_obj[indivial_i,:] = [14. 5. 12. 17.]
202 cord_individual_obj[indivial_i,:] = [15. 4. 50. 54.]
203 cord_individual_obj[indivial_i,:] = [16. 6. 16. 22.]
204 cord_individual_obj[indivial_i,:] = [17. 4. 12. 16.]
205 cord_individual_obj[indivial_i,:] = [18. 5. 32. 37.]
206 cord_individual_obj[indivial_i,:] = [19. 4. 70. 74.]
207 cord_individual_obj[indivial_i,:] = [20. 5. 52. 57.]
208 cord_individual_obj[indivial_i,:] = [21. 4. 18. 22.]
209 cord_individual_obj[indivial_i,:] = [22. 6. 12. 18.]
210 cord_individual_obj[indivial_i,:] = [23. 5. 52. 57.]
211 cord_individual_obj[indivial_i,:] = [24. 6. 44. 50.]
212
213 min(cord_individual_obj[:,3]) = 12.0
214 historl_G_best_iter[iter,3] = 12.0
215 Begin iteration:
216
217 iter = 6
218 cord_individual_obj[indivial_i,:] = [ 0. 6. 24. 30.]
219 cord_individual_obj[indivial_i,:] = [ 1. 6. 56. 62.]
220 cord_individual_obj[indivial_i,:] = [ 2. 4. 38. 42.]
221 cord_individual_obj[indivial_i,:] = [ 3. 6. 42. 48.]
222 cord_individual_obj[indivial_i,:] = [ 4. 5. 20. 25.]
223 cord_individual_obj[indivial_i,:] = [ 5. 5. 18. 23.]
224 cord_individual_obj[indivial_i,:] = [ 6. 4. 12. 16.]
225 cord_individual_obj[indivial_i,:] = [ 7. 4. 24. 28.]
226 cord_individual_obj[indivial_i,:] = [ 8. 6. 44. 50.]
227 cord_individual_obj[indivial_i,:] = [ 9. 6. 12. 18.]
228 cord_individual_obj[indivial_i,:] = [10. 4. 30. 34.]
229 cord_individual_obj[indivial_i,:] = [11. 6. 24. 30.]
230 cord_individual_obj[indivial_i,:] = [12. 6. 12. 18.]
231 cord_individual_obj[indivial_i,:] = [13. 4. 56. 60.]
232 cord_individual_obj[indivial_i,:] = [14. 5. 12. 17.]
233 cord_individual_obj[indivial_i,:] = [15. 4. 44. 48.]
234 cord_individual_obj[indivial_i,:] = [16. 5. 16. 21.]
235 cord_individual_obj[indivial_i,:] = [17. 4. 12. 16.]
236 cord_individual_obj[indivial_i,:] = [18. 5. 12. 17.]
237 cord_individual_obj[indivial_i,:] = [19. 4. 8. 12.]
238 cord_individual_obj[indivial_i,:] = [20. 5. 52. 57.]
239 cord_individual_obj[indivial_i,:] = [21. 5. 52. 57.]
240 cord_individual_obj[indivial_i,:] = [22. 6. 12. 18.]
241 cord_individual_obj[indivial_i,:] = [23. 6. 44. 50.]
242 cord_individual_obj[indivial_i,:] = [24. 6. 44. 50.]
243
244 min(cord_individual_obj[:,3]) = 12.0
245 historl_G_best_iter[iter,3] = 12.0
246 Begin iteration:
247

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248 iter = 7
249 cord_individual_obj[indivial_i, :] = [ 0.  6. 44. 50.]
250 cord_individual_obj[indivial_i, :] = [ 1.  4.  8. 12.]
251 cord_individual_obj[indivial_i, :] = [ 2.  4. 28. 32.]
252 cord_individual_obj[indivial_i, :] = [ 3.  6. 38. 44.]
253 cord_individual_obj[indivial_i, :] = [ 4.  4. 44. 48.]
254 cord_individual_obj[indivial_i, :] = [ 5.  5. 30. 35.]
255 cord_individual_obj[indivial_i, :] = [ 6.  4. 12. 16.]
256 cord_individual_obj[indivial_i, :] = [ 7.  4. 24. 28.]
257 cord_individual_obj[indivial_i, :] = [ 8.  6. 44. 50.]
258 cord_individual_obj[indivial_i, :] = [ 9.  6. 24. 30.]
259 cord_individual_obj[indivial_i, :] = [10. 4. 30. 34.]
260 cord_individual_obj[indivial_i, :] = [11. 6. 24. 30.]
261 cord_individual_obj[indivial_i, :] = [12. 4. 12. 16.]
262 cord_individual_obj[indivial_i, :] = [13. 4. 54. 58.]
263 cord_individual_obj[indivial_i, :] = [14. 5. 30. 35.]
264 cord_individual_obj[indivial_i, :] = [15. 4. 36. 40.]
265 cord_individual_obj[indivial_i, :] = [16. 6. 12. 18.]
266 cord_individual_obj[indivial_i, :] = [17. 4. 12. 16.]
267 cord_individual_obj[indivial_i, :] = [18. 6. 12. 18.]
268 cord_individual_obj[indivial_i, :] = [19. 6. 44. 50.]
269 cord_individual_obj[indivial_i, :] = [20. 5. 52. 57.]
270 cord_individual_obj[indivial_i, :] = [21. 5. 34. 39.]
271 cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
272 cord_individual_obj[indivial_i, :] = [23. 6. 60. 66.]
273 cord_individual_obj[indivial_i, :] = [24. 6. 58. 64.]
274
275 min(cord_individual_obj[:, 3]) = 12.0
276 historl_G_best_iter[iter, 3] = 12.0
277 Begin iteration:
278
279 iter = 8
280 cord_individual_obj[indivial_i, :] = [ 0.  6. 16. 22.]
281 cord_individual_obj[indivial_i, :] = [ 1.  6. 44. 50.]
282 cord_individual_obj[indivial_i, :] = [ 2.  4. 44. 48.]
283 cord_individual_obj[indivial_i, :] = [ 3.  4. 24. 28.]
284 cord_individual_obj[indivial_i, :] = [ 4.  4. 12. 16.]
285 cord_individual_obj[indivial_i, :] = [ 5.  5. 38. 43.]
286 cord_individual_obj[indivial_i, :] = [ 6.  4. 12. 16.]
287 cord_individual_obj[indivial_i, :] = [ 7.  4. 30. 34.]
288 cord_individual_obj[indivial_i, :] = [ 8.  6.  8. 14.]
289 cord_individual_obj[indivial_i, :] = [ 9.  6. 18. 24.]
290 cord_individual_obj[indivial_i, :] = [10. 4.  8. 12.]
291 cord_individual_obj[indivial_i, :] = [11. 6. 18. 24.]
292 cord_individual_obj[indivial_i, :] = [12. 6. 16. 22.]
293 cord_individual_obj[indivial_i, :] = [13. 4. 64. 68.]
294 cord_individual_obj[indivial_i, :] = [14. 4. 24. 28.]
295 cord_individual_obj[indivial_i, :] = [15. 4. 46. 50.]
296 cord_individual_obj[indivial_i, :] = [16. 6.  8. 14.]
297 cord_individual_obj[indivial_i, :] = [17. 4. 24. 28.]
298 cord_individual_obj[indivial_i, :] = [18. 4. 30. 34.]
299 cord_individual_obj[indivial_i, :] = [19. 4. 90. 94.]
300 cord_individual_obj[indivial_i, :] = [20. 5. 52. 57.]
301 cord_individual_obj[indivial_i, :] = [21. 4. 56. 60.]
302 cord_individual_obj[indivial_i, :] = [22. 4. 14. 18.]
303 cord_individual_obj[indivial_i, :] = [23. 4.  8. 12.]
304 cord_individual_obj[indivial_i, :] = [24. 6.  8. 14.]
305
306 min(cord_individual_obj[:, 3]) = 12.0
307 historl_G_best_iter[iter, 3] = 12.0
308 Begin iteration:
309
310 iter = 9
311 cord_individual_obj[indivial_i, :] = [ 0.  6. 20. 26.]
312 cord_individual_obj[indivial_i, :] = [ 1.  6. 12. 18.]
313 cord_individual_obj[indivial_i, :] = [ 2.  4. 20. 24.]
314 cord_individual_obj[indivial_i, :] = [ 3.  5. 20. 25.]
315 cord_individual_obj[indivial_i, :] = [ 4.  4. 20. 24.]
316 cord_individual_obj[indivial_i, :] = [ 5.  5. 30. 35.]
317 cord_individual_obj[indivial_i, :] = [ 6.  4. 20. 24.]
318 cord_individual_obj[indivial_i, :] = [ 7.  4. 30. 34.]
319 cord_individual_obj[indivial_i, :] = [ 8.  6. 20. 26.]
320 cord_individual_obj[indivial_i, :] = [ 9.  6. 44. 50.]
321 cord_individual_obj[indivial_i, :] = [10. 4. 30. 34.]
322 cord_individual_obj[indivial_i, :] = [11. 6. 24. 30.]
323 cord_individual_obj[indivial_i, :] = [12. 6. 44. 50.]
324 cord_individual_obj[indivial_i, :] = [13. 4. 20. 24.]
325 cord_individual_obj[indivial_i, :] = [14. 5. 12. 17.]
326 cord_individual_obj[indivial_i, :] = [15. 4. 20. 24.]
327 cord_individual_obj[indivial_i, :] = [16. 6. 24. 30.]
328 cord_individual_obj[indivial_i, :] = [17. 4. 20. 24.]
329 cord_individual_obj[indivial_i, :] = [18. 6. 44. 50.]
330 cord_individual_obj[indivial_i, :] = [19. 4.  8. 12.]
331 cord_individual_obj[indivial_i, :] = [20. 5. 30. 35.]

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332     cord_individual_obj[indivial_i, :] = [21. 5. 12. 17.]
333     cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
334     cord_individual_obj[indivial_i, :] = [23. 6. 24. 30.]
335     cord_individual_obj[indivial_i, :] = [24. 6. 24. 30.]
336
337     min(cord_individual_obj[:, 3]) = 12.0
338     historl_G_best_iter[iter, 3] = 12.0
339 Begin iteration:
340
341 iter = 10
342     cord_individual_obj[indivial_i, :] = [ 0. 6. 20. 26.]
343     cord_individual_obj[indivial_i, :] = [ 1. 6. 12. 18.]
344     cord_individual_obj[indivial_i, :] = [ 2. 4. 26. 30.]
345     cord_individual_obj[indivial_i, :] = [ 3. 6. 20. 26.]
346     cord_individual_obj[indivial_i, :] = [ 4. 4. 38. 42.]
347     cord_individual_obj[indivial_i, :] = [ 5. 5. 30. 35.]
348     cord_individual_obj[indivial_i, :] = [ 6. 4. 62. 66.]
349     cord_individual_obj[indivial_i, :] = [ 7. 4. 12. 16.]
350     cord_individual_obj[indivial_i, :] = [ 8. 6. 20. 26.]
351     cord_individual_obj[indivial_i, :] = [ 9. 4. 8. 12.]
352     cord_individual_obj[indivial_i, :] = [10. 4. 12. 16.]
353     cord_individual_obj[indivial_i, :] = [11. 6. 20. 26.]
354     cord_individual_obj[indivial_i, :] = [12. 4. 56. 60.]
355     cord_individual_obj[indivial_i, :] = [13. 4. 12. 16.]
356     cord_individual_obj[indivial_i, :] = [14. 5. 12. 17.]
357     cord_individual_obj[indivial_i, :] = [15. 4. 50. 54.]
358     cord_individual_obj[indivial_i, :] = [16. 6. 56. 62.]
359     cord_individual_obj[indivial_i, :] = [17. 4. 20. 24.]
360     cord_individual_obj[indivial_i, :] = [18. 5. 68. 73.]
361     cord_individual_obj[indivial_i, :] = [19. 6. 12. 18.]
362     cord_individual_obj[indivial_i, :] = [20. 5. 30. 35.]
363     cord_individual_obj[indivial_i, :] = [21. 5. 12. 17.]
364     cord_individual_obj[indivial_i, :] = [22. 6. 24. 30.]
365     cord_individual_obj[indivial_i, :] = [23. 6. 24. 30.]
366     cord_individual_obj[indivial_i, :] = [24. 6. 24. 30.]
367
368     min(cord_individual_obj[:, 3]) = 12.0
369     historl_G_best_iter[iter, 3] = 12.0
370 Begin iteration:
371
372 iter = 11
373     cord_individual_obj[indivial_i, :] = [ 0. 6. 20. 26.]
374     cord_individual_obj[indivial_i, :] = [ 1. 4. 38. 42.]
375     cord_individual_obj[indivial_i, :] = [ 2. 4. 26. 30.]
376     cord_individual_obj[indivial_i, :] = [ 3. 6. 20. 26.]
377     cord_individual_obj[indivial_i, :] = [ 4. 4. 32. 36.]
378     cord_individual_obj[indivial_i, :] = [ 5. 5. 12. 17.]
379     cord_individual_obj[indivial_i, :] = [ 6. 4. 52. 56.]
380     cord_individual_obj[indivial_i, :] = [ 7. 4. 18. 22.]
381     cord_individual_obj[indivial_i, :] = [ 8. 5. 30. 35.]
382     cord_individual_obj[indivial_i, :] = [ 9. 5. 30. 35.]
383     cord_individual_obj[indivial_i, :] = [10. 4. 44. 48.]
384     cord_individual_obj[indivial_i, :] = [11. 6. 28. 34.]
385     cord_individual_obj[indivial_i, :] = [12. 6. 16. 22.]
386     cord_individual_obj[indivial_i, :] = [13. 4. 12. 16.]
387     cord_individual_obj[indivial_i, :] = [14. 5. 12. 17.]
388     cord_individual_obj[indivial_i, :] = [15. 4. 44. 48.]
389     cord_individual_obj[indivial_i, :] = [16. 6. 12. 18.]
390     cord_individual_obj[indivial_i, :] = [17. 4. 98. 102.]
391     cord_individual_obj[indivial_i, :] = [18. 4. 8. 12.]
392     cord_individual_obj[indivial_i, :] = [19. 6. 12. 18.]
393     cord_individual_obj[indivial_i, :] = [20. 5. 30. 35.]
394     cord_individual_obj[indivial_i, :] = [21. 5. 12. 17.]
395     cord_individual_obj[indivial_i, :] = [22. 6. 38. 44.]
396     cord_individual_obj[indivial_i, :] = [23. 6. 24. 30.]
397     cord_individual_obj[indivial_i, :] = [24. 4. 30. 34.]
398
399     min(cord_individual_obj[:, 3]) = 12.0
400     historl_G_best_iter[iter, 3] = 12.0
401 Begin iteration:
402
403 iter = 12
404     cord_individual_obj[indivial_i, :] = [ 0. 6. 12. 18.]
405     cord_individual_obj[indivial_i, :] = [ 1. 4. 32. 36.]
406     cord_individual_obj[indivial_i, :] = [ 2. 4. 34. 38.]
407     cord_individual_obj[indivial_i, :] = [ 3. 4. 56. 60.]
408     cord_individual_obj[indivial_i, :] = [ 4. 4. 38. 42.]
409     cord_individual_obj[indivial_i, :] = [ 5. 4. 18. 22.]
410     cord_individual_obj[indivial_i, :] = [ 6. 4. 86. 90.]
411     cord_individual_obj[indivial_i, :] = [ 7. 4. 8. 12.]
412     cord_individual_obj[indivial_i, :] = [ 8. 4. 56. 60.]
413     cord_individual_obj[indivial_i, :] = [ 9. 4. 8. 12.]
414     cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
415     cord_individual_obj[indivial_i, :] = [11. 6. 56. 62.]

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unknown

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416 cord_individual_obj[indivial_i,:] = [12. 4. 26. 30.]  
417 cord_individual_obj[indivial_i,:] = [13. 4. 24. 28.]  
418 cord_individual_obj[indivial_i,:] = [14. 5. 16. 21.]  
419 cord_individual_obj[indivial_i,:] = [15. 4. 56. 60.]  
420 cord_individual_obj[indivial_i,:] = [16. 5. 32. 37.]  
421 cord_individual_obj[indivial_i,:] = [17. 4. 8. 12.]  
422 cord_individual_obj[indivial_i,:] = [18. 6. 12. 18.]  
423 cord_individual_obj[indivial_i,:] = [19. 4. 24. 28.]  
424 cord_individual_obj[indivial_i,:] = [20. 4. 8. 12.]  
425 cord_individual_obj[indivial_i,:] = [21. 5. 12. 17.]  
426 cord_individual_obj[indivial_i,:] = [22. 5. 12. 17.]  
427 cord_individual_obj[indivial_i,:] = [23. 4. 44. 48.]  
428 cord_individual_obj[indivial_i,:] = [24. 6. 8. 14.]  
429  
430 min(cord_individual_obj[:,3]) = 12.0  
431 histol_G_best_iter[iter,3] = 12.0  
432 Begin iteration:  
433  
434 iter = 13  
435 cord_individual_obj[indivial_i,:] = [ 0. 6. 20. 26.]  
436 cord_individual_obj[indivial_i,:] = [ 1. 6. 12. 18.]  
437 cord_individual_obj[indivial_i,:] = [ 2. 4. 38. 42.]  
438 cord_individual_obj[indivial_i,:] = [ 3. 5. 12. 17.]  
439 cord_individual_obj[indivial_i,:] = [ 4. 4. 32. 36.]  
440 cord_individual_obj[indivial_i,:] = [ 5. 5. 18. 23.]  
441 cord_individual_obj[indivial_i,:] = [ 6. 4. 8. 12.]  
442 cord_individual_obj[indivial_i,:] = [ 7. 4. 46. 50.]  
443 cord_individual_obj[indivial_i,:] = [ 8. 6. 12. 18.]  
444 cord_individual_obj[indivial_i,:] = [ 9. 5. 52. 57.]  
445 cord_individual_obj[indivial_i,:] = [10. 4. 12. 16.]  
446 cord_individual_obj[indivial_i,:] = [11. 6. 12. 18.]  
447 cord_individual_obj[indivial_i,:] = [12. 6. 12. 18.]  
448 cord_individual_obj[indivial_i,:] = [13. 4. 34. 38.]  
449 cord_individual_obj[indivial_i,:] = [14. 5. 22. 27.]  
450 cord_individual_obj[indivial_i,:] = [15. 4. 44. 48.]  
451 cord_individual_obj[indivial_i,:] = [16. 6. 8. 14.]  
452 cord_individual_obj[indivial_i,:] = [17. 4. 30. 34.]  
453 cord_individual_obj[indivial_i,:] = [18. 5. 48. 53.]  
454 cord_individual_obj[indivial_i,:] = [19. 6. 14. 20.]  
455 cord_individual_obj[indivial_i,:] = [20. 5. 24. 29.]  
456 cord_individual_obj[indivial_i,:] = [21. 5. 18. 23.]  
457 cord_individual_obj[indivial_i,:] = [22. 6. 12. 18.]  
458 cord_individual_obj[indivial_i,:] = [23. 6. 12. 18.]  
459 cord_individual_obj[indivial_i,:] = [24. 4. 54. 58.]  
460  
461 min(cord_individual_obj[:,3]) = 12.0  
462 histol_G_best_iter[iter,3] = 12.0  
463 Begin iteration:  
464  
465 iter = 14  
466 cord_individual_obj[indivial_i,:] = [ 0. 6. 8. 14.]  
467 cord_individual_obj[indivial_i,:] = [ 1. 6. 8. 14.]  
468 cord_individual_obj[indivial_i,:] = [ 2. 4. 68. 72.]  
469 cord_individual_obj[indivial_i,:] = [ 3. 6. 12. 18.]  
470 cord_individual_obj[indivial_i,:] = [ 4. 4. 24. 28.]  
471 cord_individual_obj[indivial_i,:] = [ 5. 5. 18. 23.]  
472 cord_individual_obj[indivial_i,:] = [ 6. 4. 18. 22.]  
473 cord_individual_obj[indivial_i,:] = [ 7. 4. 26. 30.]  
474 cord_individual_obj[indivial_i,:] = [ 8. 6. 8. 14.]  
475 cord_individual_obj[indivial_i,:] = [ 9. 5. 18. 23.]  
476 cord_individual_obj[indivial_i,:] = [10. 4. 18. 22.]  
477 cord_individual_obj[indivial_i,:] = [11. 6. 18. 24.]  
478 cord_individual_obj[indivial_i,:] = [12. 6. 8. 14.]  
479 cord_individual_obj[indivial_i,:] = [13. 4. 18. 22.]  
480 cord_individual_obj[indivial_i,:] = [14. 5. 18. 23.]  
481 cord_individual_obj[indivial_i,:] = [15. 4. 32. 36.]  
482 cord_individual_obj[indivial_i,:] = [16. 6. 8. 14.]  
483 cord_individual_obj[indivial_i,:] = [17. 4. 18. 22.]  
484 cord_individual_obj[indivial_i,:] = [18. 6. 8. 14.]  
485 cord_individual_obj[indivial_i,:] = [19. 6. 36. 42.]  
486 cord_individual_obj[indivial_i,:] = [20. 5. 18. 23.]  
487 cord_individual_obj[indivial_i,:] = [21. 5. 18. 23.]  
488 cord_individual_obj[indivial_i,:] = [22. 6. 8. 14.]  
489 cord_individual_obj[indivial_i,:] = [23. 6. 8. 14.]  
490 cord_individual_obj[indivial_i,:] = [24. 4. 8. 12.]  
491  
492 min(cord_individual_obj[:,3]) = 12.0  
493 histol_G_best_iter[iter,3] = 12.0  
494 Begin iteration:  
495  
496 iter = 15  
497 cord_individual_obj[indivial_i,:] = [ 0. 6. 8. 14.]  
498 cord_individual_obj[indivial_i,:] = [ 1. 4. 38. 42.]  
499 cord_individual_obj[indivial_i,:] = [ 2. 4. 8. 12.]
```

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500 cord_individual_obj[indivial_i,:] = [ 3. 6. 22. 28.]
501 cord_individual_obj[indivial_i,:] = [ 4. 4. 20. 24.]
502 cord_individual_obj[indivial_i,:] = [ 5. 4. 26. 30.]
503 cord_individual_obj[indivial_i,:] = [ 6. 4. 68. 72.]
504 cord_individual_obj[indivial_i,:] = [ 7. 4. 18. 22.]
505 cord_individual_obj[indivial_i,:] = [ 8. 5. 18. 23.]
506 cord_individual_obj[indivial_i,:] = [ 9. 5. 8. 13.]
507 cord_individual_obj[indivial_i,:] = [10. 4. 8. 12.]
508 cord_individual_obj[indivial_i,:] = [11. 6. 44. 50.]
509 cord_individual_obj[indivial_i,:] = [12. 4. 32. 36.]
510 cord_individual_obj[indivial_i,:] = [13. 4. 18. 22.]
511 cord_individual_obj[indivial_i,:] = [14. 5. 18. 23.]
512 cord_individual_obj[indivial_i,:] = [15. 4. 8. 12.]
513 cord_individual_obj[indivial_i,:] = [16. 5. 18. 23.]
514 cord_individual_obj[indivial_i,:] = [17. 4. 34. 38.]
515 cord_individual_obj[indivial_i,:] = [18. 4. 38. 42.]
516 cord_individual_obj[indivial_i,:] = [19. 4. 66. 70.]
517 cord_individual_obj[indivial_i,:] = [20. 5. 8. 13.]
518 cord_individual_obj[indivial_i,:] = [21. 4. 18. 22.]
519 cord_individual_obj[indivial_i,:] = [22. 4. 8. 12.]
520 cord_individual_obj[indivial_i,:] = [23. 5. 30. 35.]
521 cord_individual_obj[indivial_i,:] = [24. 6. 8. 14.]
522
523 min(cord_individual_obj[:, 3]) = 12.0
524 histort_G_best_iter[iter, 3] = 12.0
525 Begin iteration:
526
527 iter = 16
528 cord_individual_obj[indivial_i,:] = [ 0. 6. 8. 14.]
529 cord_individual_obj[indivial_i,:] = [ 1. 4. 18. 22.]
530 cord_individual_obj[indivial_i,:] = [ 2. 4. 26. 30.]
531 cord_individual_obj[indivial_i,:] = [ 3. 6. 28. 34.]
532 cord_individual_obj[indivial_i,:] = [ 4. 4. 26. 30.]
533 cord_individual_obj[indivial_i,:] = [ 5. 5. 18. 23.]
534 cord_individual_obj[indivial_i,:] = [ 6. 4. 8. 12.]
535 cord_individual_obj[indivial_i,:] = [ 7. 4. 18. 22.]
536 cord_individual_obj[indivial_i,:] = [ 8. 5. 12. 17.]
537 cord_individual_obj[indivial_i,:] = [ 9. 5. 18. 23.]
538 cord_individual_obj[indivial_i,:] = [10. 4. 18. 22.]
539 cord_individual_obj[indivial_i,:] = [11. 6. 8. 14.]
540 cord_individual_obj[indivial_i,:] = [12. 6. 8. 14.]
541 cord_individual_obj[indivial_i,:] = [13. 4. 12. 16.]
542 cord_individual_obj[indivial_i,:] = [14. 5. 12. 17.]
543 cord_individual_obj[indivial_i,:] = [15. 4. 36. 40.]
544 cord_individual_obj[indivial_i,:] = [16. 6. 8. 14.]
545 cord_individual_obj[indivial_i,:] = [17. 4. 42. 46.]
546 cord_individual_obj[indivial_i,:] = [18. 6. 8. 14.]
547 cord_individual_obj[indivial_i,:] = [19. 4. 36. 40.]
548 cord_individual_obj[indivial_i,:] = [20. 5. 18. 23.]
549 cord_individual_obj[indivial_i,:] = [21. 5. 18. 23.]
550 cord_individual_obj[indivial_i,:] = [22. 5. 18. 23.]
551 cord_individual_obj[indivial_i,:] = [23. 6. 8. 14.]
552 cord_individual_obj[indivial_i,:] = [24. 6. 8. 14.]
553
554 min(cord_individual_obj[:, 3]) = 12.0
555 histort_G_best_iter[iter, 3] = 12.0
556 Begin iteration:
557
558 iter = 17
559 cord_individual_obj[indivial_i,:] = [ 0. 5. 18. 23.]
560 cord_individual_obj[indivial_i,:] = [ 1. 6. 8. 14.]
561 cord_individual_obj[indivial_i,:] = [ 2. 4. 38. 42.]
562 cord_individual_obj[indivial_i,:] = [ 3. 6. 8. 14.]
563 cord_individual_obj[indivial_i,:] = [ 4. 4. 34. 38.]
564 cord_individual_obj[indivial_i,:] = [ 5. 5. 18. 23.]
565 cord_individual_obj[indivial_i,:] = [ 6. 4. 26. 30.]
566 cord_individual_obj[indivial_i,:] = [ 7. 4. 18. 22.]
567 cord_individual_obj[indivial_i,:] = [ 8. 6. 8. 14.]
568 cord_individual_obj[indivial_i,:] = [ 9. 5. 18. 23.]
569 cord_individual_obj[indivial_i,:] = [10. 4. 18. 22.]
570 cord_individual_obj[indivial_i,:] = [11. 4. 18. 22.]
571 cord_individual_obj[indivial_i,:] = [12. 6. 8. 14.]
572 cord_individual_obj[indivial_i,:] = [13. 4. 18. 22.]
573 cord_individual_obj[indivial_i,:] = [14. 5. 26. 31.]
574 cord_individual_obj[indivial_i,:] = [15. 4. 18. 22.]
575 cord_individual_obj[indivial_i,:] = [16. 6. 8. 14.]
576 cord_individual_obj[indivial_i,:] = [17. 4. 8. 12.]
577 cord_individual_obj[indivial_i,:] = [18. 6. 8. 14.]
578 cord_individual_obj[indivial_i,:] = [19. 6. 8. 14.]
579 cord_individual_obj[indivial_i,:] = [20. 5. 26. 31.]
580 cord_individual_obj[indivial_i,:] = [21. 5. 18. 23.]
581 cord_individual_obj[indivial_i,:] = [22. 6. 8. 14.]
582 cord_individual_obj[indivial_i,:] = [23. 6. 18. 24.]
583 cord_individual_obj[indivial_i,:] = [24. 6. 8. 14.]

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584
585 min(cord_individual_obj[:, 3]) = 12.0
586 historl_G_best_iter[iter, 3] = 12.0
587 Begin iteration:
588
589 iter = 18
590 cord_individual_obj[indivial_i, :] = [ 0.  4.  8. 12.]
591 cord_individual_obj[indivial_i, :] = [ 1.  6.  8. 14.]
592 cord_individual_obj[indivial_i, :] = [ 2.  4.  8. 12.]
593 cord_individual_obj[indivial_i, :] = [ 3.  6.  8. 14.]
594 cord_individual_obj[indivial_i, :] = [ 4.  4. 26. 30.]
595 cord_individual_obj[indivial_i, :] = [ 5.  5. 18. 23.]
596 cord_individual_obj[indivial_i, :] = [ 6.  4.  8. 12.]
597 cord_individual_obj[indivial_i, :] = [ 7.  4. 18. 22.]
598 cord_individual_obj[indivial_i, :] = [ 8.  5. 18. 23.]
599 cord_individual_obj[indivial_i, :] = [ 9.  5.  8. 13.]
600 cord_individual_obj[indivial_i, :] = [10.  4.  8. 12.]
601 cord_individual_obj[indivial_i, :] = [11.  4.  8. 12.]
602 cord_individual_obj[indivial_i, :] = [12.  6.  8. 14.]
603 cord_individual_obj[indivial_i, :] = [13.  4. 18. 22.]
604 cord_individual_obj[indivial_i, :] = [14.  5. 18. 23.]
605 cord_individual_obj[indivial_i, :] = [15.  4. 24. 28.]
606 cord_individual_obj[indivial_i, :] = [16.  5. 18. 23.]
607 cord_individual_obj[indivial_i, :] = [17.  4. 26. 30.]
608 cord_individual_obj[indivial_i, :] = [18.  5. 32. 37.]
609 cord_individual_obj[indivial_i, :] = [19.  4. 54. 58.]
610 cord_individual_obj[indivial_i, :] = [20.  5. 18. 23.]
611 cord_individual_obj[indivial_i, :] = [21.  5. 18. 23.]
612 cord_individual_obj[indivial_i, :] = [22.  6.  8. 14.]
613 cord_individual_obj[indivial_i, :] = [23.  6.  8. 14.]
614 cord_individual_obj[indivial_i, :] = [24.  4. 18. 22.]
615
616 min(cord_individual_obj[:, 3]) = 12.0
617 historl_G_best_iter[iter, 3] = 12.0
618 Begin iteration:
619
620 iter = 19
621 cord_individual_obj[indivial_i, :] = [ 0.  5.  8. 13.]
622 cord_individual_obj[indivial_i, :] = [ 1.  4. 38. 42.]
623 cord_individual_obj[indivial_i, :] = [ 2.  4.  8. 12.]
624 cord_individual_obj[indivial_i, :] = [ 3.  6. 12. 18.]
625 cord_individual_obj[indivial_i, :] = [ 4.  4. 24. 28.]
626 cord_individual_obj[indivial_i, :] = [ 5.  5. 18. 23.]
627 cord_individual_obj[indivial_i, :] = [ 6.  4. 46. 50.]
628 cord_individual_obj[indivial_i, :] = [ 7.  4. 38. 42.]
629 cord_individual_obj[indivial_i, :] = [ 8.  5. 12. 17.]
630 cord_individual_obj[indivial_i, :] = [ 9.  5. 18. 23.]
631 cord_individual_obj[indivial_i, :] = [10.  4. 18. 22.]
632 cord_individual_obj[indivial_i, :] = [11.  4. 66. 70.]
633 cord_individual_obj[indivial_i, :] = [12.  6.  8. 14.]
634 cord_individual_obj[indivial_i, :] = [13.  4. 12. 16.]
635 cord_individual_obj[indivial_i, :] = [14.  5. 18. 23.]
636 cord_individual_obj[indivial_i, :] = [15.  4. 26. 30.]
637 cord_individual_obj[indivial_i, :] = [16.  6.  8. 14.]
638 cord_individual_obj[indivial_i, :] = [17.  4.  8. 12.]
639 cord_individual_obj[indivial_i, :] = [18.  6.  8. 14.]
640 cord_individual_obj[indivial_i, :] = [19.  4.  8. 12.]
641 cord_individual_obj[indivial_i, :] = [20.  5. 38. 43.]
642 cord_individual_obj[indivial_i, :] = [21.  5. 18. 23.]
643 cord_individual_obj[indivial_i, :] = [22.  6.  8. 14.]
644 cord_individual_obj[indivial_i, :] = [23.  5. 12. 17.]
645 cord_individual_obj[indivial_i, :] = [24.  4.  8. 12.]
646
647 min(cord_individual_obj[:, 3]) = 12.0
648 historl_G_best_iter[iter, 3] = 12.0
649 Begin iteration:
650
651 iter = 20
652 cord_individual_obj[indivial_i, :] = [ 0.  5.  8. 13.]
653 cord_individual_obj[indivial_i, :] = [ 1.  6. 54. 60.]
654 cord_individual_obj[indivial_i, :] = [ 2.  4.  8. 12.]
655 cord_individual_obj[indivial_i, :] = [ 3.  6. 12. 18.]
656 cord_individual_obj[indivial_i, :] = [ 4.  4. 44. 48.]
657 cord_individual_obj[indivial_i, :] = [ 5.  5.  8. 13.]
658 cord_individual_obj[indivial_i, :] = [ 6.  4. 38. 42.]
659 cord_individual_obj[indivial_i, :] = [ 7.  4. 58. 62.]
660 cord_individual_obj[indivial_i, :] = [ 8.  6. 12. 18.]
661 cord_individual_obj[indivial_i, :] = [ 9.  5. 16. 21.]
662 cord_individual_obj[indivial_i, :] = [10.  4.  8. 12.]
663 cord_individual_obj[indivial_i, :] = [11.  4.  8. 12.]
664 cord_individual_obj[indivial_i, :] = [12.  6.  8. 14.]
665 cord_individual_obj[indivial_i, :] = [13.  4.  8. 12.]
666 cord_individual_obj[indivial_i, :] = [14.  5.  8. 13.]
667 cord_individual_obj[indivial_i, :] = [15.  4.  8. 12.]

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668 cord_individual_obj[indivial_i,:] = [16. 6. 8. 14.]
669 cord_individual_obj[indivial_i,:] = [17. 4. 94. 98.]
670 cord_individual_obj[indivial_i,:] = [18. 6. 24. 30.]
671 cord_individual_obj[indivial_i,:] = [19. 6. 18. 24.]
672 cord_individual_obj[indivial_i,:] = [20. 5. 36. 41.]
673 cord_individual_obj[indivial_i,:] = [21. 5. 36. 41.]
674 cord_individual_obj[indivial_i,:] = [22. 6. 8. 14.]
675 cord_individual_obj[indivial_i,:] = [23. 6. 58. 64.]
676 cord_individual_obj[indivial_i,:] = [24. 6. 8. 14.]
677
678 min(cord_individual_obj[:,3]) = 12.0
679 historl_G_best_iter[iter,3] = 12.0
680 Begin iteration:
681
682 iter = 21
683 cord_individual_obj[indivial_i,:] = [ 0. 4. 8. 12.]
684 cord_individual_obj[indivial_i,:] = [ 1. 4. 12. 16.]
685 cord_individual_obj[indivial_i,:] = [ 2. 4. 46. 50.]
686 cord_individual_obj[indivial_i,:] = [ 3. 6. 32. 38.]
687 cord_individual_obj[indivial_i,:] = [ 4. 4. 12. 16.]
688 cord_individual_obj[indivial_i,:] = [ 5. 5. 38. 43.]
689 cord_individual_obj[indivial_i,:] = [ 6. 4. 48. 52.]
690 cord_individual_obj[indivial_i,:] = [ 7. 4. 8. 12.]
691 cord_individual_obj[indivial_i,:] = [ 8. 6. 12. 18.]
692 cord_individual_obj[indivial_i,:] = [ 9. 5. 16. 21.]
693 cord_individual_obj[indivial_i,:] = [10. 4. 16. 20.]
694 cord_individual_obj[indivial_i,:] = [11. 4. 12. 16.]
695 cord_individual_obj[indivial_i,:] = [12. 4. 12. 16.]
696 cord_individual_obj[indivial_i,:] = [13. 4. 12. 16.]
697 cord_individual_obj[indivial_i,:] = [14. 5. 16. 21.]
698 cord_individual_obj[indivial_i,:] = [15. 4. 12. 16.]
699 cord_individual_obj[indivial_i,:] = [16. 5. 8. 13.]
700 cord_individual_obj[indivial_i,:] = [17. 4. 8. 12.]
701 cord_individual_obj[indivial_i,:] = [18. 6. 8. 14.]
702 cord_individual_obj[indivial_i,:] = [19. 6. 18. 24.]
703 cord_individual_obj[indivial_i,:] = [20. 5. 8. 13.]
704 cord_individual_obj[indivial_i,:] = [21. 4. 12. 16.]
705 cord_individual_obj[indivial_i,:] = [22. 6. 12. 18.]
706 cord_individual_obj[indivial_i,:] = [23. 6. 8. 14.]
707 cord_individual_obj[indivial_i,:] = [24. 6. 8. 14.]
708
709 min(cord_individual_obj[:,3]) = 12.0
710 historl_G_best_iter[iter,3] = 12.0
711 Begin iteration:
712
713 iter = 22
714 cord_individual_obj[indivial_i,:] = [ 0. 5. 8. 13.]
715 cord_individual_obj[indivial_i,:] = [ 1. 6. 70. 76.]
716 cord_individual_obj[indivial_i,:] = [ 2. 4. 12. 16.]
717 cord_individual_obj[indivial_i,:] = [ 3. 6. 12. 18.]
718 cord_individual_obj[indivial_i,:] = [ 4. 4. 38. 42.]
719 cord_individual_obj[indivial_i,:] = [ 5. 5. 8. 13.]
720 cord_individual_obj[indivial_i,:] = [ 6. 4. 8. 12.]
721 cord_individual_obj[indivial_i,:] = [ 7. 4. 34. 38.]
722 cord_individual_obj[indivial_i,:] = [ 8. 4. 12. 16.]
723 cord_individual_obj[indivial_i,:] = [ 9. 5. 16. 21.]
724 cord_individual_obj[indivial_i,:] = [10. 4. 8. 12.]
725 cord_individual_obj[indivial_i,:] = [11. 4. 46. 50.]
726 cord_individual_obj[indivial_i,:] = [12. 6. 12. 18.]
727 cord_individual_obj[indivial_i,:] = [13. 4. 12. 16.]
728 cord_individual_obj[indivial_i,:] = [14. 5. 62. 67.]
729 cord_individual_obj[indivial_i,:] = [15. 4. 12. 16.]
730 cord_individual_obj[indivial_i,:] = [16. 6. 16. 22.]
731 cord_individual_obj[indivial_i,:] = [17. 4. 76. 80.]
732 cord_individual_obj[indivial_i,:] = [18. 6. 36. 42.]
733 cord_individual_obj[indivial_i,:] = [19. 6. 62. 68.]
734 cord_individual_obj[indivial_i,:] = [20. 5. 18. 23.]
735 cord_individual_obj[indivial_i,:] = [21. 5. 8. 13.]
736 cord_individual_obj[indivial_i,:] = [22. 6. 12. 18.]
737 cord_individual_obj[indivial_i,:] = [23. 6. 62. 68.]
738 cord_individual_obj[indivial_i,:] = [24. 4. 8. 12.]
739
740 min(cord_individual_obj[:,3]) = 12.0
741 historl_G_best_iter[iter,3] = 12.0
742 Begin iteration:
743
744 iter = 23
745 cord_individual_obj[indivial_i,:] = [ 0. 4. 8. 12.]
746 cord_individual_obj[indivial_i,:] = [ 1. 4. 32. 36.]
747 cord_individual_obj[indivial_i,:] = [ 2. 4. 70. 74.]
748 cord_individual_obj[indivial_i,:] = [ 3. 6. 16. 22.]
749 cord_individual_obj[indivial_i,:] = [ 4. 4. 24. 28.]
750 cord_individual_obj[indivial_i,:] = [ 5. 5. 8. 13.]
751 cord_individual_obj[indivial_i,:] = [ 6. 4. 18. 22.]

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752 cord_individual_obj[indivial_i, :] = [ 7. 4. 36. 40.]
753 cord_individual_obj[indivial_i, :] = [ 8. 6. 12. 18.]
754 cord_individual_obj[indivial_i, :] = [ 9. 5. 8. 13.]
755 cord_individual_obj[indivial_i, :] = [10. 4. 16. 20.]
756 cord_individual_obj[indivial_i, :] = [11. 4. 12. 16.]
757 cord_individual_obj[indivial_i, :] = [12. 4. 12. 16.]
758 cord_individual_obj[indivial_i, :] = [13. 4. 8. 12.]
759 cord_individual_obj[indivial_i, :] = [14. 5. 52. 57.]
760 cord_individual_obj[indivial_i, :] = [15. 4. 24. 28.]
761 cord_individual_obj[indivial_i, :] = [16. 6. 12. 18.]
762 cord_individual_obj[indivial_i, :] = [17. 4. 8. 12.]
763 cord_individual_obj[indivial_i, :] = [18. 5. 8. 13.]
764 cord_individual_obj[indivial_i, :] = [19. 6. 12. 18.]
765 cord_individual_obj[indivial_i, :] = [20. 5. 8. 13.]
766 cord_individual_obj[indivial_i, :] = [21. 5. 18. 23.]
767 cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
768 cord_individual_obj[indivial_i, :] = [23. 6. 12. 18.]
769 cord_individual_obj[indivial_i, :] = [24. 6. 8. 14.]
770
771 min(cord_individual_obj[:, 3]) = 12.0
772 historl_G_best_iter[iter, 3] = 12.0
773 Begin iteration:
774
775 iter = 24
776 cord_individual_obj[indivial_i, :] = [ 0. 5. 8. 13.]
777 cord_individual_obj[indivial_i, :] = [ 1. 4. 14. 18.]
778 cord_individual_obj[indivial_i, :] = [ 2. 4. 8. 12.]
779 cord_individual_obj[indivial_i, :] = [ 3. 6. 28. 34.]
780 cord_individual_obj[indivial_i, :] = [ 4. 4. 30. 34.]
781 cord_individual_obj[indivial_i, :] = [ 5. 4. 34. 38.]
782 cord_individual_obj[indivial_i, :] = [ 6. 4. 8. 12.]
783 cord_individual_obj[indivial_i, :] = [ 7. 4. 8. 12.]
784 cord_individual_obj[indivial_i, :] = [ 8. 6. 24. 30.]
785 cord_individual_obj[indivial_i, :] = [ 9. 5. 16. 21.]
786 cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
787 cord_individual_obj[indivial_i, :] = [11. 4. 26. 30.]
788 cord_individual_obj[indivial_i, :] = [12. 6. 12. 18.]
789 cord_individual_obj[indivial_i, :] = [13. 4. 20. 24.]
790 cord_individual_obj[indivial_i, :] = [14. 5. 22. 27.]
791 cord_individual_obj[indivial_i, :] = [15. 4. 14. 18.]
792 cord_individual_obj[indivial_i, :] = [16. 5. 16. 21.]
793 cord_individual_obj[indivial_i, :] = [17. 4. 48. 52.]
794 cord_individual_obj[indivial_i, :] = [18. 6. 56. 62.]
795 cord_individual_obj[indivial_i, :] = [19. 4. 64. 68.]
796 cord_individual_obj[indivial_i, :] = [20. 4. 8. 12.]
797 cord_individual_obj[indivial_i, :] = [21. 4. 8. 12.]
798 cord_individual_obj[indivial_i, :] = [22. 5. 12. 17.]
799 cord_individual_obj[indivial_i, :] = [23. 4. 14. 18.]
800 cord_individual_obj[indivial_i, :] = [24. 4. 8. 12.]
801
802 min(cord_individual_obj[:, 3]) = 12.0
803 historl_G_best_iter[iter, 3] = 12.0
804 Begin iteration:
805
806 iter = 25
807 cord_individual_obj[indivial_i, :] = [ 0. 4. 8. 12.]
808 cord_individual_obj[indivial_i, :] = [ 1. 6. 32. 38.]
809 cord_individual_obj[indivial_i, :] = [ 2. 4. 70. 74.]
810 cord_individual_obj[indivial_i, :] = [ 3. 6. 16. 22.]
811 cord_individual_obj[indivial_i, :] = [ 4. 4. 28. 32.]
812 cord_individual_obj[indivial_i, :] = [ 5. 5. 8. 13.]
813 cord_individual_obj[indivial_i, :] = [ 6. 4. 8. 12.]
814 cord_individual_obj[indivial_i, :] = [ 7. 4. 24. 28.]
815 cord_individual_obj[indivial_i, :] = [ 8. 5. 32. 37.]
816 cord_individual_obj[indivial_i, :] = [ 9. 5. 8. 13.]
817 cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
818 cord_individual_obj[indivial_i, :] = [11. 4. 12. 16.]
819 cord_individual_obj[indivial_i, :] = [12. 4. 12. 16.]
820 cord_individual_obj[indivial_i, :] = [13. 4. 46. 50.]
821 cord_individual_obj[indivial_i, :] = [14. 5. 32. 37.]
822 cord_individual_obj[indivial_i, :] = [15. 4. 24. 28.]
823 cord_individual_obj[indivial_i, :] = [16. 6. 12. 18.]
824 cord_individual_obj[indivial_i, :] = [17. 4. 8. 12.]
825 cord_individual_obj[indivial_i, :] = [18. 6. 18. 24.]
826 cord_individual_obj[indivial_i, :] = [19. 4. 8. 12.]
827 cord_individual_obj[indivial_i, :] = [20. 5. 36. 41.]
828 cord_individual_obj[indivial_i, :] = [21. 5. 18. 23.]
829 cord_individual_obj[indivial_i, :] = [22. 5. 12. 17.]
830 cord_individual_obj[indivial_i, :] = [23. 5. 32. 37.]
831 cord_individual_obj[indivial_i, :] = [24. 4. 8. 12.]
832
833 min(cord_individual_obj[:, 3]) = 12.0
834 historl_G_best_iter[iter, 3] = 12.0
835 Begin iteration:

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836
837 iter = 26
838 cord_individual_obj[indivial_i, :] = [ 0. 5. 8. 13.]
839 cord_individual_obj[indivial_i, :] = [ 1. 4. 12. 16.]
840 cord_individual_obj[indivial_i, :] = [ 2. 4. 8. 12.]
841 cord_individual_obj[indivial_i, :] = [ 3. 6. 28. 34.]
842 cord_individual_obj[indivial_i, :] = [ 4. 4. 58. 62.]
843 cord_individual_obj[indivial_i, :] = [ 5. 5. 8. 13.]
844 cord_individual_obj[indivial_i, :] = [ 6. 4. 8. 12.]
845 cord_individual_obj[indivial_i, :] = [ 7. 4. 18. 22.]
846 cord_individual_obj[indivial_i, :] = [ 8. 6. 20. 26.]
847 cord_individual_obj[indivial_i, :] = [ 9. 5. 16. 21.]
848 cord_individual_obj[indivial_i, :] = [10. 4. 16. 20.]
849 cord_individual_obj[indivial_i, :] = [11. 4. 46. 50.]
850 cord_individual_obj[indivial_i, :] = [12. 6. 12. 18.]
851 cord_individual_obj[indivial_i, :] = [13. 4. 38. 42.]
852 cord_individual_obj[indivial_i, :] = [14. 5. 68. 73.]
853 cord_individual_obj[indivial_i, :] = [15. 4. 14. 18.]
854 cord_individual_obj[indivial_i, :] = [16. 5. 24. 29.]
855 cord_individual_obj[indivial_i, :] = [17. 4. 94. 98.]
856 cord_individual_obj[indivial_i, :] = [18. 5. 8. 13.]
857 cord_individual_obj[indivial_i, :] = [19. 6. 8. 14.]
858 cord_individual_obj[indivial_i, :] = [20. 5. 8. 13.]
859 cord_individual_obj[indivial_i, :] = [21. 5. 8. 13.]
860 cord_individual_obj[indivial_i, :] = [22. 4. 12. 16.]
861 cord_individual_obj[indivial_i, :] = [23. 6. 8. 14.]
862 cord_individual_obj[indivial_i, :] = [24. 6. 8. 14.]
863
864 min(cord_individual_obj[:, 3]) = 12.0
865 historl_G_best_iter[iter, 3] = 12.0
866 Begin iteration:
867
868 iter = 27
869 cord_individual_obj[indivial_i, :] = [ 0. 5. 8. 13.]
870 cord_individual_obj[indivial_i, :] = [ 1. 6. 12. 18.]
871 cord_individual_obj[indivial_i, :] = [ 2. 4. 46. 50.]
872 cord_individual_obj[indivial_i, :] = [ 3. 6. 20. 26.]
873 cord_individual_obj[indivial_i, :] = [ 4. 4. 12. 16.]
874 cord_individual_obj[indivial_i, :] = [ 5. 5. 66. 71.]
875 cord_individual_obj[indivial_i, :] = [ 6. 4. 76. 80.]
876 cord_individual_obj[indivial_i, :] = [ 7. 4. 18. 22.]
877 cord_individual_obj[indivial_i, :] = [ 8. 6. 28. 34.]
878 cord_individual_obj[indivial_i, :] = [ 9. 5. 8. 13.]
879 cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
880 cord_individual_obj[indivial_i, :] = [11. 4. 12. 16.]
881 cord_individual_obj[indivial_i, :] = [12. 6. 12. 18.]
882 cord_individual_obj[indivial_i, :] = [13. 4. 14. 18.]
883 cord_individual_obj[indivial_i, :] = [14. 5. 8. 13.]
884 cord_individual_obj[indivial_i, :] = [15. 4. 28. 32.]
885 cord_individual_obj[indivial_i, :] = [16. 6. 16. 22.]
886 cord_individual_obj[indivial_i, :] = [17. 4. 8. 12.]
887 cord_individual_obj[indivial_i, :] = [18. 6. 8. 14.]
888 cord_individual_obj[indivial_i, :] = [19. 6. 36. 42.]
889 cord_individual_obj[indivial_i, :] = [20. 5. 8. 13.]
890 cord_individual_obj[indivial_i, :] = [21. 4. 62. 66.]
891 cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
892 cord_individual_obj[indivial_i, :] = [23. 6. 70. 76.]
893 cord_individual_obj[indivial_i, :] = [24. 6. 8. 14.]
894
895 min(cord_individual_obj[:, 3]) = 12.0
896 historl_G_best_iter[iter, 3] = 12.0
897 Begin iteration:
898
899 iter = 28
900 cord_individual_obj[indivial_i, :] = [ 0. 5. 8. 13.]
901 cord_individual_obj[indivial_i, :] = [ 1. 4. 46. 50.]
902 cord_individual_obj[indivial_i, :] = [ 2. 4. 12. 16.]
903 cord_individual_obj[indivial_i, :] = [ 3. 6. 20. 26.]
904 cord_individual_obj[indivial_i, :] = [ 4. 4. 52. 56.]
905 cord_individual_obj[indivial_i, :] = [ 5. 5. 8. 13.]
906 cord_individual_obj[indivial_i, :] = [ 6. 4. 8. 12.]
907 cord_individual_obj[indivial_i, :] = [ 7. 4. 34. 38.]
908 cord_individual_obj[indivial_i, :] = [ 8. 6. 28. 34.]
909 cord_individual_obj[indivial_i, :] = [ 9. 5. 8. 13.]
910 cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
911 cord_individual_obj[indivial_i, :] = [11. 4. 26. 30.]
912 cord_individual_obj[indivial_i, :] = [12. 4. 12. 16.]
913 cord_individual_obj[indivial_i, :] = [13. 4. 12. 16.]
914 cord_individual_obj[indivial_i, :] = [14. 5. 20. 25.]
915 cord_individual_obj[indivial_i, :] = [15. 4. 12. 16.]
916 cord_individual_obj[indivial_i, :] = [16. 6. 12. 18.]
917 cord_individual_obj[indivial_i, :] = [17. 4. 38. 42.]
918 cord_individual_obj[indivial_i, :] = [18. 5. 36. 41.]
919 cord_individual_obj[indivial_i, :] = [19. 6. 8. 14.]

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920 cord_individual_obj[indivial_i, :] = [20. 5. 18. 23.]
921 cord_individual_obj[indivial_i, :] = [21. 5. 8. 13.]
922 cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
923 cord_individual_obj[indivial_i, :] = [23. 6. 12. 18.]
924 cord_individual_obj[indivial_i, :] = [24. 4. 8. 12.]
925
926 min(cord_individual_obj[:, 3]) = 12.0
927 historl_G best_iter[iter, 3] = 12.0
928 Begin iteration:
929
930 iter = 29
931 cord_individual_obj[indivial_i, :] = [ 0. 5. 8. 13.]
932 cord_individual_obj[indivial_i, :] = [ 1. 6. 26. 32.]
933 cord_individual_obj[indivial_i, :] = [ 2. 4. 46. 50.]
934 cord_individual_obj[indivial_i, :] = [ 3. 6. 12. 18.]
935 cord_individual_obj[indivial_i, :] = [ 4. 4. 8. 12.]
936 cord_individual_obj[indivial_i, :] = [ 5. 5. 18. 23.]
937 cord_individual_obj[indivial_i, :] = [ 6. 4. 38. 42.]
938 cord_individual_obj[indivial_i, :] = [ 7. 4. 68. 72.]
939 cord_individual_obj[indivial_i, :] = [ 8. 6. 12. 18.]
940 cord_individual_obj[indivial_i, :] = [ 9. 5. 8. 13.]
941 cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
942 cord_individual_obj[indivial_i, :] = [11. 4. 34. 38.]
943 cord_individual_obj[indivial_i, :] = [12. 6. 12. 18.]
944 cord_individual_obj[indivial_i, :] = [13. 4. 8. 12.]
945 cord_individual_obj[indivial_i, :] = [14. 5. 24. 29.]
946 cord_individual_obj[indivial_i, :] = [15. 4. 28. 32.]
947 cord_individual_obj[indivial_i, :] = [16. 6. 8. 14.]
948 cord_individual_obj[indivial_i, :] = [17. 4. 8. 12.]
949 cord_individual_obj[indivial_i, :] = [18. 6. 16. 22.]
950 cord_individual_obj[indivial_i, :] = [19. 6. 62. 68.]
951 cord_individual_obj[indivial_i, :] = [20. 5. 8. 13.]
952 cord_individual_obj[indivial_i, :] = [21. 5. 36. 41.]
953 cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
954 cord_individual_obj[indivial_i, :] = [23. 6. 18. 24.]
955 cord_individual_obj[indivial_i, :] = [24. 6. 8. 14.]
956
957 min(cord_individual_obj[:, 3]) = 12.0
958 historl_G best_iter[iter, 3] = 12.0
959 Begin iteration:
960
961 iter = 30
962 cord_individual_obj[indivial_i, :] = [ 0. 5. 8. 13.]
963 cord_individual_obj[indivial_i, :] = [ 1. 6. 12. 18.]
964 cord_individual_obj[indivial_i, :] = [ 2. 4. 12. 16.]
965 cord_individual_obj[indivial_i, :] = [ 3. 6. 12. 18.]
966 cord_individual_obj[indivial_i, :] = [ 4. 4. 24. 28.]
967 cord_individual_obj[indivial_i, :] = [ 5. 5. 8. 13.]
968 cord_individual_obj[indivial_i, :] = [ 6. 4. 16. 20.]
969 cord_individual_obj[indivial_i, :] = [ 7. 4. 8. 12.]
970 cord_individual_obj[indivial_i, :] = [ 8. 5. 12. 17.]
971 cord_individual_obj[indivial_i, :] = [ 9. 5. 8. 13.]
972 cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
973 cord_individual_obj[indivial_i, :] = [11. 4. 12. 16.]
974 cord_individual_obj[indivial_i, :] = [12. 4. 12. 16.]
975 cord_individual_obj[indivial_i, :] = [13. 4. 20. 24.]
976 cord_individual_obj[indivial_i, :] = [14. 5. 62. 67.]
977 cord_individual_obj[indivial_i, :] = [15. 4. 12. 16.]
978 cord_individual_obj[indivial_i, :] = [16. 6. 12. 18.]
979 cord_individual_obj[indivial_i, :] = [17. 4. 24. 28.]
980 cord_individual_obj[indivial_i, :] = [18. 5. 18. 23.]
981 cord_individual_obj[indivial_i, :] = [19. 6. 12. 18.]
982 cord_individual_obj[indivial_i, :] = [20. 5. 58. 63.]
983 cord_individual_obj[indivial_i, :] = [21. 5. 8. 13.]
984 cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
985 cord_individual_obj[indivial_i, :] = [23. 6. 12. 18.]
986 cord_individual_obj[indivial_i, :] = [24. 4. 8. 12.]
987
988 min(cord_individual_obj[:, 3]) = 12.0
989 historl_G best_iter[iter, 3] = 12.0
990 Begin iteration:
991
992 iter = 31
993 cord_individual_obj[indivial_i, :] = [ 0. 5. 8. 13.]
994 cord_individual_obj[indivial_i, :] = [ 1. 4. 64. 68.]
995 cord_individual_obj[indivial_i, :] = [ 2. 4. 46. 50.]
996 cord_individual_obj[indivial_i, :] = [ 3. 6. 16. 22.]
997 cord_individual_obj[indivial_i, :] = [ 4. 4. 12. 16.]
998 cord_individual_obj[indivial_i, :] = [ 5. 5. 8. 13.]
999 cord_individual_obj[indivial_i, :] = [ 6. 4. 8. 12.]
1000 cord_individual_obj[indivial_i, :] = [ 7. 4. 62. 66.]
1001 cord_individual_obj[indivial_i, :] = [ 8. 4. 12. 16.]
1002 cord_individual_obj[indivial_i, :] = [ 9. 5. 8. 13.]
1003 cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]

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1004 cord_individual_obj[individual_i, :] = [11. 4. 52. 56.]
1005 cord_individual_obj[individual_i, :] = [12. 4. 12. 16.]
1006 cord_individual_obj[individual_i, :] = [13. 4. 14. 18.]
1007 cord_individual_obj[individual_i, :] = [14. 4. 8. 12.]
1008 cord_individual_obj[individual_i, :] = [15. 4. 38. 42.]
1009 cord_individual_obj[individual_i, :] = [16. 5. 8. 13.]
1010 cord_individual_obj[individual_i, :] = [17. 4. 16. 20.]
1011 cord_individual_obj[individual_i, :] = [18. 6. 8. 14.]
1012 cord_individual_obj[individual_i, :] = [19. 4. 64. 68.]
1013 cord_individual_obj[individual_i, :] = [20. 5. 18. 23.]
1014 cord_individual_obj[individual_i, :] = [21. 4. 8. 12.]
1015 cord_individual_obj[individual_i, :] = [22. 6. 12. 18.]
1016 cord_individual_obj[individual_i, :] = [23. 6. 8. 14.]
1017 cord_individual_obj[individual_i, :] = [24. 6. 8. 14.]
1018
1019 min(cord_individual_obj[:, 3]) = 12.0
1020 historl_G_best_iter[iter, 3] = 12.0
1021 Begin iteration:
1022
1023 iter = 32
1024 cord_individual_obj[individual_i, :] = [ 0. 5. 8. 13.]
1025 cord_individual_obj[individual_i, :] = [ 1. 4. 8. 12.]
1026 cord_individual_obj[individual_i, :] = [ 2. 4. 12. 16.]
1027 cord_individual_obj[individual_i, :] = [ 3. 6. 28. 34.]
1028 cord_individual_obj[individual_i, :] = [ 4. 4. 56. 60.]
1029 cord_individual_obj[individual_i, :] = [ 5. 5. 62. 67.]
1030 cord_individual_obj[individual_i, :] = [ 6. 4. 76. 80.]
1031 cord_individual_obj[individual_i, :] = [ 7. 4. 16. 20.]
1032 cord_individual_obj[individual_i, :] = [ 8. 6. 12. 18.]
1033 cord_individual_obj[individual_i, :] = [ 9. 5. 16. 21.]
1034 cord_individual_obj[individual_i, :] = [10. 4. 8. 12.]
1035 cord_individual_obj[individual_i, :] = [11. 4. 12. 16.]
1036 cord_individual_obj[individual_i, :] = [12. 6. 12. 18.]
1037 cord_individual_obj[individual_i, :] = [13. 4. 28. 32.]
1038 cord_individual_obj[individual_i, :] = [14. 5. 16. 21.]
1039 cord_individual_obj[individual_i, :] = [15. 4. 12. 16.]
1040 cord_individual_obj[individual_i, :] = [16. 6. 24. 30.]
1041 cord_individual_obj[individual_i, :] = [17. 4. 64. 68.]
1042 cord_individual_obj[individual_i, :] = [18. 5. 18. 23.]
1043 cord_individual_obj[individual_i, :] = [19. 6. 12. 18.]
1044 cord_individual_obj[individual_i, :] = [20. 5. 18. 23.]
1045 cord_individual_obj[individual_i, :] = [21. 5. 8. 13.]
1046 cord_individual_obj[individual_i, :] = [22. 6. 12. 18.]
1047 cord_individual_obj[individual_i, :] = [23. 5. 26. 31.]
1048 cord_individual_obj[individual_i, :] = [24. 4. 8. 12.]
1049
1050 min(cord_individual_obj[:, 3]) = 12.0
1051 historl_G_best_iter[iter, 3] = 12.0
1052 Begin iteration:
1053
1054 iter = 33
1055 cord_individual_obj[individual_i, :] = [ 0. 4. 8. 12.]
1056 cord_individual_obj[individual_i, :] = [ 1. 6. 12. 18.]
1057 cord_individual_obj[individual_i, :] = [ 2. 4. 12. 16.]
1058 cord_individual_obj[individual_i, :] = [ 3. 6. 16. 22.]
1059 cord_individual_obj[individual_i, :] = [ 4. 4. 24. 28.]
1060 cord_individual_obj[individual_i, :] = [ 5. 5. 36. 41.]
1061 cord_individual_obj[individual_i, :] = [ 6. 4. 8. 12.]
1062 cord_individual_obj[individual_i, :] = [ 7. 4. 24. 28.]
1063 cord_individual_obj[individual_i, :] = [ 8. 4. 24. 28.]
1064 cord_individual_obj[individual_i, :] = [ 9. 5. 8. 13.]
1065 cord_individual_obj[individual_i, :] = [10. 4. 16. 20.]
1066 cord_individual_obj[individual_i, :] = [11. 4. 46. 50.]
1067 cord_individual_obj[individual_i, :] = [12. 4. 12. 16.]
1068 cord_individual_obj[individual_i, :] = [13. 4. 46. 50.]
1069 cord_individual_obj[individual_i, :] = [14. 4. 12. 16.]
1070 cord_individual_obj[individual_i, :] = [15. 4. 58. 62.]
1071 cord_individual_obj[individual_i, :] = [16. 5. 20. 25.]
1072 cord_individual_obj[individual_i, :] = [17. 4. 8. 12.]
1073 cord_individual_obj[individual_i, :] = [18. 6. 8. 14.]
1074 cord_individual_obj[individual_i, :] = [19. 4. 12. 16.]
1075 cord_individual_obj[individual_i, :] = [20. 5. 8. 13.]
1076 cord_individual_obj[individual_i, :] = [21. 5. 8. 13.]
1077 cord_individual_obj[individual_i, :] = [22. 6. 12. 18.]
1078 cord_individual_obj[individual_i, :] = [23. 6. 24. 30.]
1079 cord_individual_obj[individual_i, :] = [24. 6. 8. 14.]
1080
1081 min(cord_individual_obj[:, 3]) = 12.0
1082 historl_G_best_iter[iter, 3] = 12.0
1083 Begin iteration:
1084
1085 iter = 34
1086 cord_individual_obj[individual_i, :] = [ 0. 5. 8. 13.]
1087 cord_individual_obj[individual_i, :] = [ 1. 4. 70. 74.]

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1088 cord_individual_obj[indivial_i, :] = [ 2. 4. 26. 30.]
1089 cord_individual_obj[indivial_i, :] = [ 3. 6. 20. 26.]
1090 cord_individual_obj[indivial_i, :] = [ 4. 4. 56. 60.]
1091 cord_individual_obj[indivial_i, :] = [ 5. 5. 8. 13.]
1092 cord_individual_obj[indivial_i, :] = [ 6. 4. 38. 42.]
1093 cord_individual_obj[indivial_i, :] = [ 7. 4. 8. 12.]
1094 cord_individual_obj[indivial_i, :] = [ 8. 6. 12. 18.]
1095 cord_individual_obj[indivial_i, :] = [ 9. 5. 8. 13.]
1096 cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
1097 cord_individual_obj[indivial_i, :] = [11. 4. 26. 30.]
1098 cord_individual_obj[indivial_i, :] = [12. 6. 12. 18.]
1099 cord_individual_obj[indivial_i, :] = [13. 4. 12. 16.]
1100 cord_individual_obj[indivial_i, :] = [14. 5. 8. 13.]
1101 cord_individual_obj[indivial_i, :] = [15. 4. 8. 12.]
1102 cord_individual_obj[indivial_i, :] = [16. 6. 8. 14.]
1103 cord_individual_obj[indivial_i, :] = [17. 4. 24. 28.]
1104 cord_individual_obj[indivial_i, :] = [18. 6. 94. 100.]
1105 cord_individual_obj[indivial_i, :] = [19. 6. 62. 68.]
1106 cord_individual_obj[indivial_i, :] = [20. 5. 36. 41.]
1107 cord_individual_obj[indivial_i, :] = [21. 4. 36. 40.]
1108 cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
1109 cord_individual_obj[indivial_i, :] = [23. 6. 8. 14.]
1110 cord_individual_obj[indivial_i, :] = [24. 6. 8. 14.]
1111
1112 min(cord_individual_obj[:, 3]) = 12.0
1113 historl_G_best_iter[iter, 3] = 12.0
1114 Begin iteration:
1115
1116 iter = 35
1117 cord_individual_obj[indivial_i, :] = [ 0. 4. 8. 12.]
1118 cord_individual_obj[indivial_i, :] = [ 1. 6. 12. 18.]
1119 cord_individual_obj[indivial_i, :] = [ 2. 4. 12. 16.]
1120 cord_individual_obj[indivial_i, :] = [ 3. 6. 20. 26.]
1121 cord_individual_obj[indivial_i, :] = [ 4. 4. 24. 28.]
1122 cord_individual_obj[indivial_i, :] = [ 5. 5. 36. 41.]
1123 cord_individual_obj[indivial_i, :] = [ 6. 4. 62. 66.]
1124 cord_individual_obj[indivial_i, :] = [ 7. 4. 18. 22.]
1125 cord_individual_obj[indivial_i, :] = [ 8. 6. 24. 30.]
1126 cord_individual_obj[indivial_i, :] = [ 9. 5. 16. 21.]
1127 cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
1128 cord_individual_obj[indivial_i, :] = [11. 4. 46. 50.]
1129 cord_individual_obj[indivial_i, :] = [12. 4. 12. 16.]
1130 cord_individual_obj[indivial_i, :] = [13. 4. 24. 28.]
1131 cord_individual_obj[indivial_i, :] = [14. 5. 12. 17.]
1132 cord_individual_obj[indivial_i, :] = [15. 4. 12. 16.]
1133 cord_individual_obj[indivial_i, :] = [16. 5. 12. 17.]
1134 cord_individual_obj[indivial_i, :] = [17. 4. 8. 12.]
1135 cord_individual_obj[indivial_i, :] = [18. 4. 8. 12.]
1136 cord_individual_obj[indivial_i, :] = [19. 6. 8. 14.]
1137 cord_individual_obj[indivial_i, :] = [20. 5. 8. 13.]
1138 cord_individual_obj[indivial_i, :] = [21. 5. 8. 13.]
1139 cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
1140 cord_individual_obj[indivial_i, :] = [23. 6. 24. 30.]
1141 cord_individual_obj[indivial_i, :] = [24. 6. 8. 14.]
1142
1143 min(cord_individual_obj[:, 3]) = 12.0
1144 historl_G_best_iter[iter, 3] = 12.0
1145 Begin iteration:
1146
1147 iter = 36
1148 cord_individual_obj[indivial_i, :] = [ 0. 5. 8. 13.]
1149 cord_individual_obj[indivial_i, :] = [ 1. 4. 12. 16.]
1150 cord_individual_obj[indivial_i, :] = [ 2. 4. 12. 16.]
1151 cord_individual_obj[indivial_i, :] = [ 3. 6. 12. 18.]
1152 cord_individual_obj[indivial_i, :] = [ 4. 4. 28. 32.]
1153 cord_individual_obj[indivial_i, :] = [ 5. 5. 8. 13.]
1154 cord_individual_obj[indivial_i, :] = [ 6. 4. 8. 12.]
1155 cord_individual_obj[indivial_i, :] = [ 7. 4. 94. 98.]
1156 cord_individual_obj[indivial_i, :] = [ 8. 6. 12. 18.]
1157 cord_individual_obj[indivial_i, :] = [ 9. 5. 16. 21.]
1158 cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
1159 cord_individual_obj[indivial_i, :] = [11. 4. 52. 56.]
1160 cord_individual_obj[indivial_i, :] = [12. 6. 12. 18.]
1161 cord_individual_obj[indivial_i, :] = [13. 4. 12. 16.]
1162 cord_individual_obj[indivial_i, :] = [14. 5. 24. 29.]
1163 cord_individual_obj[indivial_i, :] = [15. 4. 12. 16.]
1164 cord_individual_obj[indivial_i, :] = [16. 6. 12. 18.]
1165 cord_individual_obj[indivial_i, :] = [17. 4. 18. 22.]
1166 cord_individual_obj[indivial_i, :] = [18. 6. 48. 54.]
1167 cord_individual_obj[indivial_i, :] = [19. 6. 24. 30.]
1168 cord_individual_obj[indivial_i, :] = [20. 5. 68. 73.]
1169 cord_individual_obj[indivial_i, :] = [21. 4. 76. 80.]
1170 cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
1171 cord_individual_obj[indivial_i, :] = [23. 6. 8. 14.]

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unknown

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1172     cord_individual_obj[indivial_i, :] = [24. 6. 8. 14.]
1173
1174 min(cord_individual_obj[:, 3]) = 12.0
1175 historl_G_best_iter[iter, 3] = 12.0
1176 Begin iteration:
1177
1178 iter = 37
1179     cord_individual_obj[indivial_i, :] = [ 0. 5. 8. 13.]
1180     cord_individual_obj[indivial_i, :] = [ 1. 6. 12. 18.]
1181     cord_individual_obj[indivial_i, :] = [ 2. 4. 12. 16.]
1182     cord_individual_obj[indivial_i, :] = [ 3. 6. 32. 38.]
1183     cord_individual_obj[indivial_i, :] = [ 4. 4. 12. 16.]
1184     cord_individual_obj[indivial_i, :] = [ 5. 5. 8. 13.]
1185     cord_individual_obj[indivial_i, :] = [ 6. 4. 24. 28.]
1186     cord_individual_obj[indivial_i, :] = [ 7. 4. 8. 12.]
1187     cord_individual_obj[indivial_i, :] = [ 8. 5. 12. 17.]
1188     cord_individual_obj[indivial_i, :] = [ 9. 5. 8. 13.]
1189     cord_individual_obj[indivial_i, :] = [10. 4. 16. 20.]
1190     cord_individual_obj[indivial_i, :] = [11. 4. 12. 16.]
1191     cord_individual_obj[indivial_i, :] = [12. 4. 12. 16.]
1192     cord_individual_obj[indivial_i, :] = [13. 4. 12. 16.]
1193     cord_individual_obj[indivial_i, :] = [14. 5. 20. 25.]
1194     cord_individual_obj[indivial_i, :] = [15. 4. 24. 28.]
1195     cord_individual_obj[indivial_i, :] = [16. 5. 24. 29.]
1196     cord_individual_obj[indivial_i, :] = [17. 4. 8. 12.]
1197     cord_individual_obj[indivial_i, :] = [18. 5. 16. 21.]
1198     cord_individual_obj[indivial_i, :] = [19. 6. 30. 36.]
1199     cord_individual_obj[indivial_i, :] = [20. 5. 8. 13.]
1200     cord_individual_obj[indivial_i, :] = [21. 5. 24. 29.]
1201     cord_individual_obj[indivial_i, :] = [22. 6. 12. 18.]
1202     cord_individual_obj[indivial_i, :] = [23. 5. 30. 35.]
1203     cord_individual_obj[indivial_i, :] = [24. 4. 8. 12.]
1204
1205 min(cord_individual_obj[:, 3]) = 12.0
1206 historl_G_best_iter[iter, 3] = 12.0
1207 Begin iteration:
1208
1209 iter = 38
1210     cord_individual_obj[indivial_i, :] = [ 0. 4. 8. 12.]
1211     cord_individual_obj[indivial_i, :] = [ 1. 6. 32. 38.]
1212     cord_individual_obj[indivial_i, :] = [ 2. 4. 12. 16.]
1213     cord_individual_obj[indivial_i, :] = [ 3. 4. 8. 12.]
1214     cord_individual_obj[indivial_i, :] = [ 4. 4. 38. 42.]
1215     cord_individual_obj[indivial_i, :] = [ 5. 5. 64. 69.]
1216     cord_individual_obj[indivial_i, :] = [ 6. 4. 94. 98.]
1217     cord_individual_obj[indivial_i, :] = [ 7. 4. 76. 80.]
1218     cord_individual_obj[indivial_i, :] = [ 8. 6. 16. 22.]
1219     cord_individual_obj[indivial_i, :] = [ 9. 5. 8. 13.]
1220     cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
1221     cord_individual_obj[indivial_i, :] = [11. 4. 62. 66.]
1222     cord_individual_obj[indivial_i, :] = [12. 6. 12. 18.]
1223     cord_individual_obj[indivial_i, :] = [13. 4. 24. 28.]
1224     cord_individual_obj[indivial_i, :] = [14. 5. 8. 13.]
1225     cord_individual_obj[indivial_i, :] = [15. 4. 14. 18.]
1226     cord_individual_obj[indivial_i, :] = [16. 5. 12. 17.]
1227     cord_individual_obj[indivial_i, :] = [17. 4. 48. 52.]
1228     cord_individual_obj[indivial_i, :] = [18. 6. 48. 54.]
1229     cord_individual_obj[indivial_i, :] = [19. 4. 8. 12.]
1230     cord_individual_obj[indivial_i, :] = [20. 5. 18. 23.]
1231     cord_individual_obj[indivial_i, :] = [21. 5. 8. 13.]
1232     cord_individual_obj[indivial_i, :] = [22. 5. 12. 17.]
1233     cord_individual_obj[indivial_i, :] = [23. 6. 22. 28.]
1234     cord_individual_obj[indivial_i, :] = [24. 4. 8. 12.]
1235
1236 min(cord_individual_obj[:, 3]) = 12.0
1237 historl_G_best_iter[iter, 3] = 12.0
1238 Begin iteration:
1239
1240 iter = 39
1241     cord_individual_obj[indivial_i, :] = [ 0. 5. 8. 13.]
1242     cord_individual_obj[indivial_i, :] = [ 1. 4. 14. 18.]
1243     cord_individual_obj[indivial_i, :] = [ 2. 4. 28. 32.]
1244     cord_individual_obj[indivial_i, :] = [ 3. 6. 20. 26.]
1245     cord_individual_obj[indivial_i, :] = [ 4. 4. 24. 28.]
1246     cord_individual_obj[indivial_i, :] = [ 5. 4. 24. 28.]
1247     cord_individual_obj[indivial_i, :] = [ 6. 4. 8. 12.]
1248     cord_individual_obj[indivial_i, :] = [ 7. 4. 18. 22.]
1249     cord_individual_obj[indivial_i, :] = [ 8. 5. 32. 37.]
1250     cord_individual_obj[indivial_i, :] = [ 9. 4. 8. 12.]
1251     cord_individual_obj[indivial_i, :] = [10. 4. 8. 12.]
1252     cord_individual_obj[indivial_i, :] = [11. 4. 26. 30.]
1253     cord_individual_obj[indivial_i, :] = [12. 4. 12. 16.]
1254     cord_individual_obj[indivial_i, :] = [13. 4. 44. 48.]
1255     cord_individual_obj[indivial_i, :] = [14. 5. 72. 77.]
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1256 cord_individual_obj[individual_i, :] = [15. 4. 24. 28.]
1257 cord_individual_obj[individual_i, :] = [16. 6. 44. 50.]
1258 cord_individual_obj[individual_i, :] = [17. 4. 8. 12.]
1259 cord_individual_obj[individual_i, :] = [18. 5. 18. 23.]
1260 cord_individual_obj[individual_i, :] = [19. 6. 44. 50.]
1261 cord_individual_obj[individual_i, :] = [20. 4. 8. 12.]
1262 cord_individual_obj[individual_i, :] = [21. 4. 76. 80.]
1263 cord_individual_obj[individual_i, :] = [22. 5. 12. 17.]
1264 cord_individual_obj[individual_i, :] = [23. 6. 24. 30.]
1265 cord_individual_obj[individual_i, :] = [24. 6. 8. 14.]
1266
1267 min(cord_individual_obj[:, 3]) = 12.0
1268 historl_G_best_iter[iter, 3] = 12.0
1269 Begin iteration:
1270
1271 iter = 40
1272 cord_individual_obj[individual_i, :] = [ 0. 5. 8. 13.]
1273 cord_individual_obj[individual_i, :] = [ 1. 4. 24. 28.]
1274 cord_individual_obj[individual_i, :] = [ 2. 4. 14. 18.]
1275 cord_individual_obj[individual_i, :] = [ 3. 5. 12. 17.]
1276 cord_individual_obj[individual_i, :] = [ 4. 4. 44. 48.]
1277 cord_individual_obj[individual_i, :] = [ 5. 5. 8. 13.]
1278 cord_individual_obj[individual_i, :] = [ 6. 4. 18. 22.]
1279 cord_individual_obj[individual_i, :] = [ 7. 4. 16. 20.]
1280 cord_individual_obj[individual_i, :] = [ 8. 5. 36. 41.]
1281 cord_individual_obj[individual_i, :] = [ 9. 5. 16. 21.]
1282 cord_individual_obj[individual_i, :] = [10. 4. 16. 20.]
1283 cord_individual_obj[individual_i, :] = [11. 4. 12. 16.]
1284 cord_individual_obj[individual_i, :] = [12. 6. 12. 18.]
1285 cord_individual_obj[individual_i, :] = [13. 4. 52. 56.]
1286 cord_individual_obj[individual_i, :] = [14. 4. 30. 34.]
1287 cord_individual_obj[individual_i, :] = [15. 4. 34. 38.]
1288 cord_individual_obj[individual_i, :] = [16. 6. 24. 30.]
1289 cord_individual_obj[individual_i, :] = [17. 4. 8. 12.]
1290 cord_individual_obj[individual_i, :] = [18. 6. 8. 14.]
1291 cord_individual_obj[individual_i, :] = [19. 4. 24. 28.]
1292 cord_individual_obj[individual_i, :] = [20. 5. 18. 23.]
1293 cord_individual_obj[individual_i, :] = [21. 4. 8. 12.]
1294 cord_individual_obj[individual_i, :] = [22. 6. 12. 18.]
1295 cord_individual_obj[individual_i, :] = [23. 5. 46. 51.]
1296 cord_individual_obj[individual_i, :] = [24. 4. 8. 12.]
1297
1298 min(cord_individual_obj[:, 3]) = 12.0
1299 historl_G_best_iter[iter, 3] = 12.0
1300 Iteration calculate over
1301
1302
1303
1304
1305 All item are in Bin and:
1306 Bin area = 1080
1307 Real_area = 93.0
1308 Proportion_of_area = 0.0861111111111111
1309 BEST_CHROM =
1310     berth: [ 2.5 26. 12. 20.5 16.5 7. ]
1311     time: [0. 0. 0. 0. 0. ]
1312     num_QC: [2. 2. 3. 3. 2. 3.]
1313 Objective function values and some other indicators:
1314     Obj0 = 4.00          Obj1 = 8.00          Obj0 + Obj1 = 12.00
1315 Total movement of crane: 8.00
1316 Total waiting time in berth position: 0.00
1317 Total index of q during berthing: 555.00
1318 Specific arrangement for each vessel:
1319     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: 1.0
1320             gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work load_i
1321             : 80.0           work load gap_i: 0
1322     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: 0.0
1323             gama_i1 + 1: 3.0           gama_i1 - gama_i0: 2.0           duration_time_i: 3.0           demand_i: 120.0           work
1324             2.0           work load gap_i: 0
1325     V_id: 2           li: 6.0           xi: 12.0           bow of i: 9.0           tail of i: 15.0           gama_i0: 0.0           gama_i1: 0.0
1326             gama_i1 + 1: 5.0           gama_i1 - gama_i0: 4.0           duration_time_i: 5.0           demand_i: 260.0           work
1327             4.0           work load gap_i: 0
1328     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: 0.0
1329             gama_i1 + 1: 2.0           gama_i1 - gama_i0: 1.0           duration_time_i: 2.0           demand_i: 80.0           work
1330             1.0           work load gap_i: 0
1331     V_id: 4           li: 3.0           xi: 16.5           bow of i: 15.0           tail of i: 18.0           gama_i0: 0.0           gama_i1: 0.0
1332             gama_i1 + 1: 5.0           gama_i1 - gama_i0: 4.0           duration_time_i: 5.0           demand_i: 200.0           work
1333             4.0           work load gap_i: 0
1334     V_id: 5           li: 4.0           xi: 7.0           bow of i: 5.0           tail of i: 9.0           gama_i0: 0.0           gama_i1: 3.0
1335             gama_i1 + 1: 4.0           gama_i1 - gama_i0: 3.0           duration_time_i: 4.0           demand_i: 220.0           work load_i
1336             : 220.0           work load gap_i: 0
1337
1338 Algorithm finished and the total CPU time: 411 s
1339 End

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