

unknown

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80 cord_individual_obj[indivial_i,:] = [16. 2. 0. 2.]
81 cord_individual_obj[indivial_i,:] = [17. 1. 0. 1.]
82 cord_individual_obj[indivial_i,:] = [18. 2. 0. 2.]
83 cord_individual_obj[indivial_i,:] = [19. 1. 0. 1.]
84 cord_individual_obj[indivial_i,:] = [20. 2. 0. 2.]
85 cord_individual_obj[indivial_i,:] = [21. 2. 0. 2.]
86 cord_individual_obj[indivial_i,:] = [22. 2. 0. 2.]
87 cord_individual_obj[indivial_i,:] = [23. 1. 0. 1.]
88 cord_individual_obj[indivial_i,:] = [24. 1. 0. 1.]
89
90 min(cord_individual_obj[:,3]) = 0.0
91 historl_G_best_iter[iter,3] = 0.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [0. 2. 0. 2.]
96 cord_individual_obj[indivial_i,:] = [1. 2. 0. 2.]
97 cord_individual_obj[indivial_i,:] = [2. 0. 0. 0.]
98 cord_individual_obj[indivial_i,:] = [3. 2. 0. 2.]
99 cord_individual_obj[indivial_i,:] = [4. 2. 0. 2.]
100 cord_individual_obj[indivial_i,:] = [5. 2. 0. 2.]
101 cord_individual_obj[indivial_i,:] = [6. 1. 0. 1.]
102 cord_individual_obj[indivial_i,:] = [7. 2. 0. 2.]
103 cord_individual_obj[indivial_i,:] = [8. 1. 0. 1.]
104 cord_individual_obj[indivial_i,:] = [9. 1. 0. 1.]
105 cord_individual_obj[indivial_i,:] = [10. 0. 0. 0.]
106 cord_individual_obj[indivial_i,:] = [11. 2. 0. 2.]
107 cord_individual_obj[indivial_i,:] = [12. 2. 0. 2.]
108 cord_individual_obj[indivial_i,:] = [13. 2. 0. 2.]
109 cord_individual_obj[indivial_i,:] = [14. 2. 0. 2.]
110 cord_individual_obj[indivial_i,:] = [15. 2. 0. 2.]
111 cord_individual_obj[indivial_i,:] = [16. 2. 0. 2.]
112 cord_individual_obj[indivial_i,:] = [17. 2. 0. 2.]
113 cord_individual_obj[indivial_i,:] = [18. 1. 0. 1.]
114 cord_individual_obj[indivial_i,:] = [19. 1. 0. 1.]
115 cord_individual_obj[indivial_i,:] = [20. 1. 0. 1.]
116 cord_individual_obj[indivial_i,:] = [21. 2. 0. 2.]
117 cord_individual_obj[indivial_i,:] = [22. 1. 0. 1.]
118 cord_individual_obj[indivial_i,:] = [23. 1. 0. 1.]
119 cord_individual_obj[indivial_i,:] = [24. 2. 0. 2.]
120
121 min(cord_individual_obj[:,3]) = 0.0
122 historl_G_best_iter[iter,3] = 0.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [0. 0. 0. 0.]
127 cord_individual_obj[indivial_i,:] = [1. 1. 0. 1.]
128 cord_individual_obj[indivial_i,:] = [2. 2. 0. 2.]
129 cord_individual_obj[indivial_i,:] = [3. 2. 0. 2.]
130 cord_individual_obj[indivial_i,:] = [4. 2. 0. 2.]
131 cord_individual_obj[indivial_i,:] = [5. 1. 0. 1.]
132 cord_individual_obj[indivial_i,:] = [6. 1. 0. 1.]
133 cord_individual_obj[indivial_i,:] = [7. 1. 0. 1.]
134 cord_individual_obj[indivial_i,:] = [8. 2. 0. 2.]
135 cord_individual_obj[indivial_i,:] = [9. 2. 0. 2.]
136 cord_individual_obj[indivial_i,:] = [10. 0. 0. 0.]
137 cord_individual_obj[indivial_i,:] = [11. 2. 0. 2.]
138 cord_individual_obj[indivial_i,:] = [12. 1. 0. 1.]
139 cord_individual_obj[indivial_i,:] = [13. 2. 0. 2.]
140 cord_individual_obj[indivial_i,:] = [14. 1. 0. 1.]
141 cord_individual_obj[indivial_i,:] = [15. 1. 0. 1.]
142 cord_individual_obj[indivial_i,:] = [16. 1. 0. 1.]
143 cord_individual_obj[indivial_i,:] = [17. 1. 0. 1.]
144 cord_individual_obj[indivial_i,:] = [18. 0. 0. 0.]
145 cord_individual_obj[indivial_i,:] = [19. 1. 0. 1.]
146 cord_individual_obj[indivial_i,:] = [20. 2. 0. 2.]
147 cord_individual_obj[indivial_i,:] = [21. 1. 0. 1.]
148 cord_individual_obj[indivial_i,:] = [22. 1. 0. 1.]
149 cord_individual_obj[indivial_i,:] = [23. 0. 0. 0.]
150 cord_individual_obj[indivial_i,:] = [24. 2. 0. 2.]
151
152 min(cord_individual_obj[:,3]) = 0.0
153 historl_G_best_iter[iter,3] = 0.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [0. 2. 0. 2.]
158 cord_individual_obj[indivial_i,:] = [1. 2. 0. 2.]
159 cord_individual_obj[indivial_i,:] = [2. 0. 0. 0.]
160 cord_individual_obj[indivial_i,:] = [3. 2. 0. 2.]
161 cord_individual_obj[indivial_i,:] = [4. 2. 0. 2.]
162 cord_individual_obj[indivial_i,:] = [5. 2. 0. 2.]
163 cord_individual_obj[indivial_i,:] = [6. 2. 0. 2.]

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164 cord_individual_obj[indivial_i, :] = [7. 2. 0. 2.]
165 cord_individual_obj[indivial_i, :] = [8. 1. 0. 1.]
166 cord_individual_obj[indivial_i, :] = [9. 1. 0. 1.]
167 cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
168 cord_individual_obj[indivial_i, :] = [11. 1. 0. 1.]
169 cord_individual_obj[indivial_i, :] = [12. 2. 0. 2.]
170 cord_individual_obj[indivial_i, :] = [13. 2. 0. 2.]
171 cord_individual_obj[indivial_i, :] = [14. 1. 0. 1.]
172 cord_individual_obj[indivial_i, :] = [15. 2. 0. 2.]
173 cord_individual_obj[indivial_i, :] = [16. 2. 0. 2.]
174 cord_individual_obj[indivial_i, :] = [17. 2. 0. 2.]
175 cord_individual_obj[indivial_i, :] = [18. 1. 0. 1.]
176 cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]
177 cord_individual_obj[indivial_i, :] = [20. 2. 0. 2.]
178 cord_individual_obj[indivial_i, :] = [21. 2. 0. 2.]
179 cord_individual_obj[indivial_i, :] = [22. 1. 0. 1.]
180 cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
181 cord_individual_obj[indivial_i, :] = [24. 1. 0. 1.]
182
183 min(cord_individual_obj[:, 3]) = 0.0
184 historl_G_best_iter[iter, 3] = 0.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i, :] = [0. 0. 0. 0.]
189 cord_individual_obj[indivial_i, :] = [1. 2. 0. 2.]
190 cord_individual_obj[indivial_i, :] = [2. 2. 0. 2.]
191 cord_individual_obj[indivial_i, :] = [3. 2. 0. 2.]
192 cord_individual_obj[indivial_i, :] = [4. 1. 0. 1.]
193 cord_individual_obj[indivial_i, :] = [5. 2. 0. 2.]
194 cord_individual_obj[indivial_i, :] = [6. 2. 0. 2.]
195 cord_individual_obj[indivial_i, :] = [7. 2. 0. 2.]
196 cord_individual_obj[indivial_i, :] = [8. 2. 0. 2.]
197 cord_individual_obj[indivial_i, :] = [9. 1. 0. 1.]
198 cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
199 cord_individual_obj[indivial_i, :] = [11. 2. 0. 2.]
200 cord_individual_obj[indivial_i, :] = [12. 2. 0. 2.]
201 cord_individual_obj[indivial_i, :] = [13. 2. 0. 2.]
202 cord_individual_obj[indivial_i, :] = [14. 1. 0. 1.]
203 cord_individual_obj[indivial_i, :] = [15. 2. 0. 2.]
204 cord_individual_obj[indivial_i, :] = [16. 2. 0. 2.]
205 cord_individual_obj[indivial_i, :] = [17. 2. 0. 2.]
206 cord_individual_obj[indivial_i, :] = [18. 1. 0. 1.]
207 cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]
208 cord_individual_obj[indivial_i, :] = [20. 2. 0. 2.]
209 cord_individual_obj[indivial_i, :] = [21. 2. 0. 2.]
210 cord_individual_obj[indivial_i, :] = [22. 2. 0. 2.]
211 cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
212 cord_individual_obj[indivial_i, :] = [24. 2. 0. 2.]
213
214 min(cord_individual_obj[:, 3]) = 0.0
215 historl_G_best_iter[iter, 3] = 0.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i, :] = [0. 2. 0. 2.]
220 cord_individual_obj[indivial_i, :] = [1. 0. 0. 0.]
221 cord_individual_obj[indivial_i, :] = [2. 2. 0. 2.]
222 cord_individual_obj[indivial_i, :] = [3. 2. 0. 2.]
223 cord_individual_obj[indivial_i, :] = [4. 2. 0. 2.]
224 cord_individual_obj[indivial_i, :] = [5. 1. 0. 1.]
225 cord_individual_obj[indivial_i, :] = [6. 1. 0. 1.]
226 cord_individual_obj[indivial_i, :] = [7. 1. 0. 1.]
227 cord_individual_obj[indivial_i, :] = [8. 2. 0. 2.]
228 cord_individual_obj[indivial_i, :] = [9. 1. 0. 1.]
229 cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
230 cord_individual_obj[indivial_i, :] = [11. 2. 0. 2.]
231 cord_individual_obj[indivial_i, :] = [12. 1. 0. 1.]
232 cord_individual_obj[indivial_i, :] = [13. 2. 0. 2.]
233 cord_individual_obj[indivial_i, :] = [14. 1. 0. 1.]
234 cord_individual_obj[indivial_i, :] = [15. 1. 0. 1.]
235 cord_individual_obj[indivial_i, :] = [16. 1. 0. 1.]
236 cord_individual_obj[indivial_i, :] = [17. 1. 0. 1.]
237 cord_individual_obj[indivial_i, :] = [18. 0. 0. 0.]
238 cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]
239 cord_individual_obj[indivial_i, :] = [20. 1. 0. 1.]
240 cord_individual_obj[indivial_i, :] = [21. 1. 0. 1.]
241 cord_individual_obj[indivial_i, :] = [22. 2. 0. 2.]
242 cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
243 cord_individual_obj[indivial_i, :] = [24. 2. 0. 2.]
244
245 min(cord_individual_obj[:, 3]) = 0.0
246 historl_G_best_iter[iter, 3] = 0.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [0. 0. 0. 0.]
251 cord_individual_obj[indivial_i, :] = [1. 1. 0. 1.]
252 cord_individual_obj[indivial_i, :] = [2. 1. 0. 1.]
253 cord_individual_obj[indivial_i, :] = [3. 1. 0. 1.]
254 cord_individual_obj[indivial_i, :] = [4. 2. 0. 2.]
255 cord_individual_obj[indivial_i, :] = [5. 1. 0. 1.]
256 cord_individual_obj[indivial_i, :] = [6. 1. 0. 1.]
257 cord_individual_obj[indivial_i, :] = [7. 1. 0. 1.]
258 cord_individual_obj[indivial_i, :] = [8. 1. 0. 1.]
259 cord_individual_obj[indivial_i, :] = [9. 2. 0. 2.]
260 cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
261 cord_individual_obj[indivial_i, :] = [11. 2. 0. 2.]
262 cord_individual_obj[indivial_i, :] = [12. 1. 0. 1.]
263 cord_individual_obj[indivial_i, :] = [13. 2. 0. 2.]
264 cord_individual_obj[indivial_i, :] = [14. 1. 0. 1.]
265 cord_individual_obj[indivial_i, :] = [15. 1. 0. 1.]
266 cord_individual_obj[indivial_i, :] = [16. 1. 0. 1.]
267 cord_individual_obj[indivial_i, :] = [17. 1. 0. 1.]
268 cord_individual_obj[indivial_i, :] = [18. 0. 0. 0.]
269 cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]
270 cord_individual_obj[indivial_i, :] = [20. 2. 0. 2.]
271 cord_individual_obj[indivial_i, :] = [21. 1. 0. 1.]
272 cord_individual_obj[indivial_i, :] = [22. 1. 0. 1.]
273 cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
274 cord_individual_obj[indivial_i, :] = [24. 1. 0. 1.]
275

276 min(cord_individual_obj[:, 3]) = 0.0
277 historl_G_best_iter[iter, 3] = 0.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [0. 2. 0. 2.]
282 cord_individual_obj[indivial_i, :] = [1. 2. 0. 2.]
283 cord_individual_obj[indivial_i, :] = [2. 2. 0. 2.]
284 cord_individual_obj[indivial_i, :] = [3. 2. 0. 2.]
285 cord_individual_obj[indivial_i, :] = [4. 0. 0. 0.]
286 cord_individual_obj[indivial_i, :] = [5. 2. 0. 2.]
287 cord_individual_obj[indivial_i, :] = [6. 1. 0. 1.]
288 cord_individual_obj[indivial_i, :] = [7. 1. 0. 1.]
289 cord_individual_obj[indivial_i, :] = [8. 2. 0. 2.]
290 cord_individual_obj[indivial_i, :] = [9. 1. 0. 1.]
291 cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
292 cord_individual_obj[indivial_i, :] = [11. 2. 0. 2.]
293 cord_individual_obj[indivial_i, :] = [12. 2. 0. 2.]
294 cord_individual_obj[indivial_i, :] = [13. 0. 0. 0.]
295 cord_individual_obj[indivial_i, :] = [14. 2. 0. 2.]
296 cord_individual_obj[indivial_i, :] = [15. 2. 0. 2.]
297 cord_individual_obj[indivial_i, :] = [16. 2. 0. 2.]
298 cord_individual_obj[indivial_i, :] = [17. 2. 0. 2.]
299 cord_individual_obj[indivial_i, :] = [18. 0. 0. 0.]
300 cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]
301 cord_individual_obj[indivial_i, :] = [20. 1. 0. 1.]
302 cord_individual_obj[indivial_i, :] = [21. 1. 0. 1.]
303 cord_individual_obj[indivial_i, :] = [22. 2. 0. 2.]
304 cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
305 cord_individual_obj[indivial_i, :] = [24. 2. 0. 2.]
306

307 min(cord_individual_obj[:, 3]) = 0.0
308 historl_G_best_iter[iter, 3] = 0.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [0. 0. 0. 0.]
313 cord_individual_obj[indivial_i, :] = [1. 2. 0. 2.]
314 cord_individual_obj[indivial_i, :] = [2. 1. 0. 1.]
315 cord_individual_obj[indivial_i, :] = [3. 2. 0. 2.]
316 cord_individual_obj[indivial_i, :] = [4. 2. 0. 2.]
317 cord_individual_obj[indivial_i, :] = [5. 2. 0. 2.]
318 cord_individual_obj[indivial_i, :] = [6. 2. 0. 2.]
319 cord_individual_obj[indivial_i, :] = [7. 2. 0. 2.]
320 cord_individual_obj[indivial_i, :] = [8. 1. 0. 1.]
321 cord_individual_obj[indivial_i, :] = [9. 0. 0. 0.]
322 cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
323 cord_individual_obj[indivial_i, :] = [11. 1. 0. 1.]
324 cord_individual_obj[indivial_i, :] = [12. 2. 0. 2.]
325 cord_individual_obj[indivial_i, :] = [13. 2. 0. 2.]
326 cord_individual_obj[indivial_i, :] = [14. 1. 0. 1.]
327 cord_individual_obj[indivial_i, :] = [15. 2. 0. 2.]
328 cord_individual_obj[indivial_i, :] = [16. 1. 0. 1.]
329 cord_individual_obj[indivial_i, :] = [17. 1. 0. 1.]
330 cord_individual_obj[indivial_i, :] = [18. 0. 0. 0.]
331 cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]

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332 cord_individual_obj[indivial_i, :] = [20. 1. 0. 1.]
333 cord_individual_obj[indivial_i, :] = [21. 2. 0. 2.]
334 cord_individual_obj[indivial_i, :] = [22. 0. 0. 0.]
335 cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
336 cord_individual_obj[indivial_i, :] = [24. 1. 0. 1.]
337
338 min(cord_individual_obj[:, 3]) = 0.0
339 historl_G_best_iter[iter, 3] = 0.0
340 Begin iteration:
341
342 iter = 10
343 cord_individual_obj[indivial_i, :] = [0. 1. 0. 1.]
344 cord_individual_obj[indivial_i, :] = [1. 0. 0. 0.]
345 cord_individual_obj[indivial_i, :] = [2. 2. 0. 2.]
346 cord_individual_obj[indivial_i, :] = [3. 2. 0. 2.]
347 cord_individual_obj[indivial_i, :] = [4. 1. 0. 1.]
348 cord_individual_obj[indivial_i, :] = [5. 1. 0. 1.]
349 cord_individual_obj[indivial_i, :] = [6. 2. 0. 2.]
350 cord_individual_obj[indivial_i, :] = [7. 0. 0. 0.]
351 cord_individual_obj[indivial_i, :] = [8. 2. 0. 2.]
352 cord_individual_obj[indivial_i, :] = [9. 2. 0. 2.]
353 cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
354 cord_individual_obj[indivial_i, :] = [11. 2. 0. 2.]
355 cord_individual_obj[indivial_i, :] = [12. 1. 0. 1.]
356 cord_individual_obj[indivial_i, :] = [13. 1. 0. 1.]
357 cord_individual_obj[indivial_i, :] = [14. 1. 0. 1.]
358 cord_individual_obj[indivial_i, :] = [15. 1. 0. 1.]
359 cord_individual_obj[indivial_i, :] = [16. 1. 0. 1.]
360 cord_individual_obj[indivial_i, :] = [17. 2. 0. 2.]
361 cord_individual_obj[indivial_i, :] = [18. 1. 0. 1.]
362 cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]
363 cord_individual_obj[indivial_i, :] = [20. 2. 0. 2.]
364 cord_individual_obj[indivial_i, :] = [21. 1. 0. 1.]
365 cord_individual_obj[indivial_i, :] = [22. 1. 0. 1.]
366 cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
367 cord_individual_obj[indivial_i, :] = [24. 1. 0. 1.]
368
369 min(cord_individual_obj[:, 3]) = 0.0
370 historl_G_best_iter[iter, 3] = 0.0
371 Begin iteration:
372
373 iter = 11
374 cord_individual_obj[indivial_i, :] = [0. 1. 0. 1.]
375 cord_individual_obj[indivial_i, :] = [1. 1. 0. 1.]
376 cord_individual_obj[indivial_i, :] = [2. 0. 0. 0.]
377 cord_individual_obj[indivial_i, :] = [3. 2. 0. 2.]
378 cord_individual_obj[indivial_i, :] = [4. 1. 0. 1.]
379 cord_individual_obj[indivial_i, :] = [5. 2. 0. 2.]
380 cord_individual_obj[indivial_i, :] = [6. 2. 0. 2.]
381 cord_individual_obj[indivial_i, :] = [7. 1. 0. 1.]
382 cord_individual_obj[indivial_i, :] = [8. 1. 0. 1.]
383 cord_individual_obj[indivial_i, :] = [9. 1. 0. 1.]
384 cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
385 cord_individual_obj[indivial_i, :] = [11. 2. 0. 2.]
386 cord_individual_obj[indivial_i, :] = [12. 2. 0. 2.]
387 cord_individual_obj[indivial_i, :] = [13. 0. 0. 0.]
388 cord_individual_obj[indivial_i, :] = [14. 2. 0. 2.]
389 cord_individual_obj[indivial_i, :] = [15. 2. 0. 2.]
390 cord_individual_obj[indivial_i, :] = [16. 2. 0. 2.]
391 cord_individual_obj[indivial_i, :] = [17. 2. 0. 2.]
392 cord_individual_obj[indivial_i, :] = [18. 0. 0. 0.]
393 cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]
394 cord_individual_obj[indivial_i, :] = [20. 2. 0. 2.]
395 cord_individual_obj[indivial_i, :] = [21. 2. 0. 2.]
396 cord_individual_obj[indivial_i, :] = [22. 2. 0. 2.]
397 cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
398 cord_individual_obj[indivial_i, :] = [24. 2. 0. 2.]
399
400 min(cord_individual_obj[:, 3]) = 0.0
401 historl_G_best_iter[iter, 3] = 0.0
402 Begin iteration:
403
404 iter = 12
405 cord_individual_obj[indivial_i, :] = [0. 1. 0. 1.]
406 cord_individual_obj[indivial_i, :] = [1. 1. 0. 1.]
407 cord_individual_obj[indivial_i, :] = [2. 2. 0. 2.]
408 cord_individual_obj[indivial_i, :] = [3. 0. 0. 0.]
409 cord_individual_obj[indivial_i, :] = [4. 2. 0. 2.]
410 cord_individual_obj[indivial_i, :] = [5. 1. 0. 1.]
411 cord_individual_obj[indivial_i, :] = [6. 1. 0. 1.]
412 cord_individual_obj[indivial_i, :] = [7. 1. 0. 1.]
413 cord_individual_obj[indivial_i, :] = [8. 2. 0. 2.]
414 cord_individual_obj[indivial_i, :] = [9. 2. 0. 2.]
415 cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]

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416 cord_individual_obj[indivial_i,:] = [11. 2. 0. 2.]
417 cord_individual_obj[indivial_i,:] = [12. 1. 0. 1.]
418 cord_individual_obj[indivial_i,:] = [13. 2. 0. 2.]
419 cord_individual_obj[indivial_i,:] = [14. 1. 0. 1.]
420 cord_individual_obj[indivial_i,:] = [15. 2. 0. 2.]
421 cord_individual_obj[indivial_i,:] = [16. 1. 0. 1.]
422 cord_individual_obj[indivial_i,:] = [17. 2. 0. 2.]
423 cord_individual_obj[indivial_i,:] = [18. 0. 0. 0.]
424 cord_individual_obj[indivial_i,:] = [19. 1. 0. 1.]
425 cord_individual_obj[indivial_i,:] = [20. 1. 0. 1.]
426 cord_individual_obj[indivial_i,:] = [21. 1. 0. 1.]
427 cord_individual_obj[indivial_i,:] = [22. 2. 0. 2.]
428 cord_individual_obj[indivial_i,:] = [23. 0. 0. 0.]
429 cord_individual_obj[indivial_i,:] = [24. 2. 0. 2.]
430
431 min(cord_individual_obj[:,3]) = 0.0
432 histol_G_best_iter[iter,3] = 0.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [0. 1. 0. 1.]
437 cord_individual_obj[indivial_i,:] = [1. 1. 0. 1.]
438 cord_individual_obj[indivial_i,:] = [2. 0. 0. 0.]
439 cord_individual_obj[indivial_i,:] = [3. 2. 0. 2.]
440 cord_individual_obj[indivial_i,:] = [4. 1. 0. 1.]
441 cord_individual_obj[indivial_i,:] = [5. 1. 0. 1.]
442 cord_individual_obj[indivial_i,:] = [6. 0. 0. 0.]
443 cord_individual_obj[indivial_i,:] = [7. 1. 0. 1.]
444 cord_individual_obj[indivial_i,:] = [8. 1. 0. 1.]
445 cord_individual_obj[indivial_i,:] = [9. 1. 0. 1.]
446 cord_individual_obj[indivial_i,:] = [10. 0. 0. 0.]
447 cord_individual_obj[indivial_i,:] = [11. 2. 0. 2.]
448 cord_individual_obj[indivial_i,:] = [12. 1. 0. 1.]
449 cord_individual_obj[indivial_i,:] = [13. 1. 0. 1.]
450 cord_individual_obj[indivial_i,:] = [14. 1. 0. 1.]
451 cord_individual_obj[indivial_i,:] = [15. 1. 0. 1.]
452 cord_individual_obj[indivial_i,:] = [16. 1. 0. 1.]
453 cord_individual_obj[indivial_i,:] = [17. 1. 0. 1.]
454 cord_individual_obj[indivial_i,:] = [18. 1. 0. 1.]
455 cord_individual_obj[indivial_i,:] = [19. 1. 0. 1.]
456 cord_individual_obj[indivial_i,:] = [20. 2. 0. 2.]
457 cord_individual_obj[indivial_i,:] = [21. 1. 0. 1.]
458 cord_individual_obj[indivial_i,:] = [22. 1. 0. 1.]
459 cord_individual_obj[indivial_i,:] = [23. 0. 0. 0.]
460 cord_individual_obj[indivial_i,:] = [24. 1. 0. 1.]
461
462 min(cord_individual_obj[:,3]) = 0.0
463 histol_G_best_iter[iter,3] = 0.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [0. 1. 0. 1.]
468 cord_individual_obj[indivial_i,:] = [1. 2. 0. 2.]
469 cord_individual_obj[indivial_i,:] = [2. 2. 0. 2.]
470 cord_individual_obj[indivial_i,:] = [3. 0. 0. 0.]
471 cord_individual_obj[indivial_i,:] = [4. 2. 0. 2.]
472 cord_individual_obj[indivial_i,:] = [5. 1. 0. 1.]
473 cord_individual_obj[indivial_i,:] = [6. 1. 0. 1.]
474 cord_individual_obj[indivial_i,:] = [7. 1. 0. 1.]
475 cord_individual_obj[indivial_i,:] = [8. 2. 0. 2.]
476 cord_individual_obj[indivial_i,:] = [9. 2. 0. 2.]
477 cord_individual_obj[indivial_i,:] = [10. 0. 0. 0.]
478 cord_individual_obj[indivial_i,:] = [11. 2. 0. 2.]
479 cord_individual_obj[indivial_i,:] = [12. 1. 0. 1.]
480 cord_individual_obj[indivial_i,:] = [13. 2. 0. 2.]
481 cord_individual_obj[indivial_i,:] = [14. 2. 0. 2.]
482 cord_individual_obj[indivial_i,:] = [15. 1. 0. 1.]
483 cord_individual_obj[indivial_i,:] = [16. 2. 0. 2.]
484 cord_individual_obj[indivial_i,:] = [17. 2. 0. 2.]
485 cord_individual_obj[indivial_i,:] = [18. 1. 0. 1.]
486 cord_individual_obj[indivial_i,:] = [19. 1. 0. 1.]
487 cord_individual_obj[indivial_i,:] = [20. 2. 0. 2.]
488 cord_individual_obj[indivial_i,:] = [21. 1. 0. 1.]
489 cord_individual_obj[indivial_i,:] = [22. 2. 0. 2.]
490 cord_individual_obj[indivial_i,:] = [23. 0. 0. 0.]
491 cord_individual_obj[indivial_i,:] = [24. 1. 0. 1.]
492
493 min(cord_individual_obj[:,3]) = 0.0
494 histol_G_best_iter[iter,3] = 0.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [0. 1. 0. 1.]
499 cord_individual_obj[indivial_i,:] = [1. 0. 0. 0.]

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500 cord_individual_obj[indivial_i,:] = [2, 2, 0, 2.]
501 cord_individual_obj[indivial_i,:] = [3, 2, 0, 2.]
502 cord_individual_obj[indivial_i,:] = [4, 1, 0, 1.]
503 cord_individual_obj[indivial_i,:] = [5, 1, 0, 1.]
504 cord_individual_obj[indivial_i,:] = [6, 1, 0, 1.]
505 cord_individual_obj[indivial_i,:] = [7, 1, 0, 1.]
506 cord_individual_obj[indivial_i,:] = [8, 2, 0, 2.]
507 cord_individual_obj[indivial_i,:] = [9, 1, 0, 1.]
508 cord_individual_obj[indivial_i,:] = [10, 0, 0, 0.]
509 cord_individual_obj[indivial_i,:] = [11, 2, 0, 2.]
510 cord_individual_obj[indivial_i,:] = [12, 1, 0, 1.]
511 cord_individual_obj[indivial_i,:] = [13, 2, 0, 2.]
512 cord_individual_obj[indivial_i,:] = [14, 1, 0, 1.]
513 cord_individual_obj[indivial_i,:] = [15, 1, 0, 1.]
514 cord_individual_obj[indivial_i,:] = [16, 1, 0, 1.]
515 cord_individual_obj[indivial_i,:] = [17, 1, 0, 1.]
516 cord_individual_obj[indivial_i,:] = [18, 0, 0, 0.]
517 cord_individual_obj[indivial_i,:] = [19, 1, 0, 1.]
518 cord_individual_obj[indivial_i,:] = [20, 1, 0, 1.]
519 cord_individual_obj[indivial_i,:] = [21, 1, 0, 1.]
520 cord_individual_obj[indivial_i,:] = [22, 2, 0, 2.]
521 cord_individual_obj[indivial_i,:] = [23, 0, 0, 0.]
522 cord_individual_obj[indivial_i,:] = [24, 1, 0, 1.]
523
524 min(cord_individual_obj[:, 3]) = 0.0
525 histol_G_best_iter[iter, 3] = 0.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i,:] = [0, 1, 0, 1.]
530 cord_individual_obj[indivial_i,:] = [1, 1, 0, 1.]
531 cord_individual_obj[indivial_i,:] = [2, 0, 0, 0.]
532 cord_individual_obj[indivial_i,:] = [3, 1, 0, 1.]
533 cord_individual_obj[indivial_i,:] = [4, 2, 0, 2.]
534 cord_individual_obj[indivial_i,:] = [5, 1, 0, 1.]
535 cord_individual_obj[indivial_i,:] = [6, 1, 0, 1.]
536 cord_individual_obj[indivial_i,:] = [7, 1, 0, 1.]
537 cord_individual_obj[indivial_i,:] = [8, 2, 0, 2.]
538 cord_individual_obj[indivial_i,:] = [9, 1, 0, 1.]
539 cord_individual_obj[indivial_i,:] = [10, 0, 0, 0.]
540 cord_individual_obj[indivial_i,:] = [11, 2, 0, 2.]
541 cord_individual_obj[indivial_i,:] = [12, 1, 0, 1.]
542 cord_individual_obj[indivial_i,:] = [13, 2, 0, 2.]
543 cord_individual_obj[indivial_i,:] = [14, 1, 0, 1.]
544 cord_individual_obj[indivial_i,:] = [15, 1, 0, 1.]
545 cord_individual_obj[indivial_i,:] = [16, 1, 0, 1.]
546 cord_individual_obj[indivial_i,:] = [17, 1, 0, 1.]
547 cord_individual_obj[indivial_i,:] = [18, 0, 0, 0.]
548 cord_individual_obj[indivial_i,:] = [19, 1, 0, 1.]
549 cord_individual_obj[indivial_i,:] = [20, 2, 0, 2.]
550 cord_individual_obj[indivial_i,:] = [21, 1, 0, 1.]
551 cord_individual_obj[indivial_i,:] = [22, 2, 0, 2.]
552 cord_individual_obj[indivial_i,:] = [23, 0, 0, 0.]
553 cord_individual_obj[indivial_i,:] = [24, 1, 0, 1.]
554
555 min(cord_individual_obj[:, 3]) = 0.0
556 histol_G_best_iter[iter, 3] = 0.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i,:] = [0, 1, 0, 1.]
561 cord_individual_obj[indivial_i,:] = [1, 1, 0, 1.]
562 cord_individual_obj[indivial_i,:] = [2, 2, 0, 2.]
563 cord_individual_obj[indivial_i,:] = [3, 1, 0, 1.]
564 cord_individual_obj[indivial_i,:] = [4, 0, 0, 0.]
565 cord_individual_obj[indivial_i,:] = [5, 1, 0, 1.]
566 cord_individual_obj[indivial_i,:] = [6, 0, 0, 0.]
567 cord_individual_obj[indivial_i,:] = [7, 1, 0, 1.]
568 cord_individual_obj[indivial_i,:] = [8, 2, 0, 2.]
569 cord_individual_obj[indivial_i,:] = [9, 1, 0, 1.]
570 cord_individual_obj[indivial_i,:] = [10, 0, 0, 0.]
571 cord_individual_obj[indivial_i,:] = [11, 1, 0, 1.]
572 cord_individual_obj[indivial_i,:] = [12, 1, 0, 1.]
573 cord_individual_obj[indivial_i,:] = [13, 2, 0, 2.]
574 cord_individual_obj[indivial_i,:] = [14, 1, 0, 1.]
575 cord_individual_obj[indivial_i,:] = [15, 1, 0, 1.]
576 cord_individual_obj[indivial_i,:] = [16, 1, 0, 1.]
577 cord_individual_obj[indivial_i,:] = [17, 1, 0, 1.]
578 cord_individual_obj[indivial_i,:] = [18, 0, 0, 0.]
579 cord_individual_obj[indivial_i,:] = [19, 1, 0, 1.]
580 cord_individual_obj[indivial_i,:] = [20, 2, 0, 2.]
581 cord_individual_obj[indivial_i,:] = [21, 1, 0, 1.]
582 cord_individual_obj[indivial_i,:] = [22, 2, 0, 2.]
583 cord_individual_obj[indivial_i,:] = [23, 0, 0, 0.]

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584     cord_individual_obj[indivial_i, :] = [24. 2. 0. 2.]
585
586     min(cord_individual_obj[:, 3]) = 0.0
587     historl_G_best_iter[iter, 3] = 0.0
588 Begin iteration:
589
590 iter = 18
591     cord_individual_obj[indivial_i, :] = [0. 1. 0. 1.]
592     cord_individual_obj[indivial_i, :] = [1. 2. 0. 2.]
593     cord_individual_obj[indivial_i, :] = [2. 0. 0. 0.]
594     cord_individual_obj[indivial_i, :] = [3. 2. 0. 2.]
595     cord_individual_obj[indivial_i, :] = [4. 2. 0. 2.]
596     cord_individual_obj[indivial_i, :] = [5. 2. 0. 2.]
597     cord_individual_obj[indivial_i, :] = [6. 1. 0. 1.]
598     cord_individual_obj[indivial_i, :] = [7. 1. 0. 1.]
599     cord_individual_obj[indivial_i, :] = [8. 1. 0. 1.]
600     cord_individual_obj[indivial_i, :] = [9. 0. 0. 0.]
601     cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
602     cord_individual_obj[indivial_i, :] = [11. 2. 0. 2.]
603     cord_individual_obj[indivial_i, :] = [12. 2. 0. 2.]
604     cord_individual_obj[indivial_i, :] = [13. 0. 0. 0.]
605     cord_individual_obj[indivial_i, :] = [14. 2. 0. 2.]
606     cord_individual_obj[indivial_i, :] = [15. 2. 0. 2.]
607     cord_individual_obj[indivial_i, :] = [16. 2. 0. 2.]
608     cord_individual_obj[indivial_i, :] = [17. 2. 0. 2.]
609     cord_individual_obj[indivial_i, :] = [18. 1. 0. 1.]
610     cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]
611     cord_individual_obj[indivial_i, :] = [20. 2. 0. 2.]
612     cord_individual_obj[indivial_i, :] = [21. 1. 0. 1.]
613     cord_individual_obj[indivial_i, :] = [22. 2. 0. 2.]
614     cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
615     cord_individual_obj[indivial_i, :] = [24. 2. 0. 2.]
616
617     min(cord_individual_obj[:, 3]) = 0.0
618     historl_G_best_iter[iter, 3] = 0.0
619 Begin iteration:
620
621 iter = 19
622     cord_individual_obj[indivial_i, :] = [0. 1. 0. 1.]
623     cord_individual_obj[indivial_i, :] = [1. 0. 0. 0.]
624     cord_individual_obj[indivial_i, :] = [2. 2. 0. 2.]
625     cord_individual_obj[indivial_i, :] = [3. 2. 0. 2.]
626     cord_individual_obj[indivial_i, :] = [4. 2. 0. 2.]
627     cord_individual_obj[indivial_i, :] = [5. 1. 0. 1.]
628     cord_individual_obj[indivial_i, :] = [6. 1. 0. 1.]
629     cord_individual_obj[indivial_i, :] = [7. 1. 0. 1.]
630     cord_individual_obj[indivial_i, :] = [8. 2. 0. 2.]
631     cord_individual_obj[indivial_i, :] = [9. 2. 0. 2.]
632     cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
633     cord_individual_obj[indivial_i, :] = [11. 2. 0. 2.]
634     cord_individual_obj[indivial_i, :] = [12. 1. 0. 1.]
635     cord_individual_obj[indivial_i, :] = [13. 2. 0. 2.]
636     cord_individual_obj[indivial_i, :] = [14. 1. 0. 1.]
637     cord_individual_obj[indivial_i, :] = [15. 1. 0. 1.]
638     cord_individual_obj[indivial_i, :] = [16. 1. 0. 1.]
639     cord_individual_obj[indivial_i, :] = [17. 1. 0. 1.]
640     cord_individual_obj[indivial_i, :] = [18. 1. 0. 1.]
641     cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]
642     cord_individual_obj[indivial_i, :] = [20. 1. 0. 1.]
643     cord_individual_obj[indivial_i, :] = [21. 1. 0. 1.]
644     cord_individual_obj[indivial_i, :] = [22. 2. 0. 2.]
645     cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
646     cord_individual_obj[indivial_i, :] = [24. 2. 0. 2.]
647
648     min(cord_individual_obj[:, 3]) = 0.0
649     historl_G_best_iter[iter, 3] = 0.0
650 Begin iteration:
651
652 iter = 20
653     cord_individual_obj[indivial_i, :] = [0. 2. 0. 2.]
654     cord_individual_obj[indivial_i, :] = [1. 1. 0. 1.]
655     cord_individual_obj[indivial_i, :] = [2. 0. 0. 0.]
656     cord_individual_obj[indivial_i, :] = [3. 2. 0. 2.]
657     cord_individual_obj[indivial_i, :] = [4. 2. 0. 2.]
658     cord_individual_obj[indivial_i, :] = [5. 1. 0. 1.]
659     cord_individual_obj[indivial_i, :] = [6. 1. 0. 1.]
660     cord_individual_obj[indivial_i, :] = [7. 1. 0. 1.]
661     cord_individual_obj[indivial_i, :] = [8. 2. 0. 2.]
662     cord_individual_obj[indivial_i, :] = [9. 2. 0. 2.]
663     cord_individual_obj[indivial_i, :] = [10. 0. 0. 0.]
664     cord_individual_obj[indivial_i, :] = [11. 2. 0. 2.]
665     cord_individual_obj[indivial_i, :] = [12. 1. 0. 1.]
666     cord_individual_obj[indivial_i, :] = [13. 2. 0. 2.]
667     cord_individual_obj[indivial_i, :] = [14. 1. 0. 1.]

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668 cord_individual_obj[indivial_i, :] = [15. 1. 0. 1.]
669 cord_individual_obj[indivial_i, :] = [16. 1. 0. 1.]
670 cord_individual_obj[indivial_i, :] = [17. 1. 0. 1.]
671 cord_individual_obj[indivial_i, :] = [18. 0. 0. 0.]
672 cord_individual_obj[indivial_i, :] = [19. 1. 0. 1.]
673 cord_individual_obj[indivial_i, :] = [20. 2. 0. 2.]
674 cord_individual_obj[indivial_i, :] = [21. 1. 0. 1.]
675 cord_individual_obj[indivial_i, :] = [22. 2. 0. 2.]
676 cord_individual_obj[indivial_i, :] = [23. 0. 0. 0.]
677 cord_individual_obj[indivial_i, :] = [24. 2. 0. 2.]
678
679 min(cord_individual_obj[:, 3]) = 0.0
680 historl_G_best_iter[iter, 3] = 0.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 41.0
689 Proportion_of_area = 0.03796296296296296
690 BEST_CHROM =
691     berth: [16. 20.5 2.5 9. ]
692     time: [0. 0. 0. 0.]
693     num_QC: [3. 3. 5. 3.]
694 Objective function values and some other indicators:
695 Obj0 = 0.00      Obj1 = 0.00      Obj0 + Obj1 = 0.00
696 Total movement of crane: 0.00
697 Total waiting time in berth position: 0.00
698 Total index of q during berthing: 130.00
699 Specific arrangement for each vessel:
700
    V_id: 0           li: 6.0          xi: 16.0          bow of i: 13.0          tail of i: 19.0          gama_i0: 0.0          gama_i1: 0
    .0             gama_i1 + 1: 1.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 60.0      work
    load_i: 60.0      work load gap_i: 0
701
    V_id: 1           li: 3.0          xi: 20.5          bow of i: 19.0          tail of i: 22.0          gama_i0: 0.0          gama_i1: 0
    .0             gama_i1 + 1: 1.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 60.0      work
    load_i: 60.0      work load gap_i: 0
702
    V_id: 2           li: 5.0          xi: 2.5           bow of i: 0.0          tail of i: 5.0           gama_i0: 0.0          gama_i1: 0
    100.0          gama_i1 + 1: 1.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 100.0      work load_i:
    60.0            work load gap_i: 0
703
    V_id: 3           li: 8.0          xi: 9.0           bow of i: 5.0          tail of i: 13.0          gama_i0: 0.0          gama_i1: 0
    .0             gama_i1 + 1: 1.0      gama_i1 - gama_i0: 0.0      duration_time_i: 1.0      demand_i: 60.0      work load_i:
704
705 Algorithm finished and the total CPU time: 109 s
706 End
707

```