

unknown

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1 "E:\1_20\3_00000\1_00000\1_0000000\1_0000000_0000\1_LW_00002\6_0000\2 python code\01_My_Python_Code\Scripts\python.exe" "D:\Python\Pycharm\setroute\PyCharm Community Edition 2021.2.3\plugins\python-ce\helpers\pydev\pydevconsole.py" --mode=client --port=48865
2
3 import sys; print('Python %s on %s' % (sys.version, sys.platform))
4 sys.path.extend(['E:\1_20\3_00000\1_00000\1_0000000\1_0000000_0000\1_LW_00002\6_0000\2 python code\01_My_Python_Code', 'E:/1_00000/3_00000/1_0000000/1_0000000_0000\1_LW_00002/6_0000\2 python code/01_My_Python_Code'])
5
6 PyDev console: starting.
7
8 Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32
9 >>> runfile('E:/1_20\3_00000\1_00000\1_0000000\1_0000000_0000\1_LW_00002\6_0000\2 python code\01_My_Python_Code/main_BACASP_offical_PSO_2D_Bin_berth_line.py', wdir='E:/1_20\3_00000\1_0000000\1_0000000_0000\1_LW_00002\6_0000\2 python code/01_My_Python_Code')
10 Backend TkAgg is interactive backend. Turning interactive mode on.
11 Waiting 1s.....
12
13 This is the R_20_1_standerd_test.xlsx optimization process.
14
15 Start
16   Read basic data
17     V = 20
18     T = 36
19     Q = 23
20     L = 30
21 PSO parameter setting:
22   Trail = 31
23   maxIter_num = 20
24   W_inertia = 2.0
25   oder_type_num = 25
26   c1 = 1.5
27   c2 = 1.5
28   r1 = 0.9707771951021117
29   r2 = 0.9707771951021117
30 Begin iteration:
31
32 iter = 0
33   cord_individual_obj[indivial_i,:] = [ 0. 11. 546. 557.]
34   cord_individual_obj[indivial_i,:] = [ 1. 12. 373. 385.]
35   cord_individual_obj[indivial_i,:] = [ 2. 11. 375. 386.]
36   cord_individual_obj[indivial_i,:] = [ 3. 13. 423. 436.]
37   cord_individual_obj[indivial_i,:] = [ 4. 10. 411. 421.]
38   cord_individual_obj[indivial_i,:] = [ 5. 11. 449. 460.]
39   cord_individual_obj[indivial_i,:] = [ 6. 11. 425. 436.]
40   cord_individual_obj[indivial_i,:] = [ 7. 12. 382. 394.]
41   cord_individual_obj[indivial_i,:] = [ 8. 10. 467. 477.]
42   cord_individual_obj[indivial_i,:] = [ 9. 11. 363. 374.]
43   cord_individual_obj[indivial_i,:] = [ 10. 13. 335. 348.]
44   cord_individual_obj[indivial_i,:] = [ 11. 12. 426. 438.]
45   cord_individual_obj[indivial_i,:] = [ 12. 12. 310. 322.]
46   cord_individual_obj[indivial_i,:] = [ 13. 11. 411. 422.]
47   cord_individual_obj[indivial_i,:] = [ 14. 14. 484. 498.]
48   cord_individual_obj[indivial_i,:] = [ 15. 11. 437. 448.]
49   cord_individual_obj[indivial_i,:] = [ 16. 11. 419. 430.]
50   cord_individual_obj[indivial_i,:] = [ 17. 11. 386. 397.]
51   cord_individual_obj[indivial_i,:] = [ 18. 11. 394. 405.]
52   cord_individual_obj[indivial_i,:] = [ 19. 10. 347. 357.]
53   cord_individual_obj[indivial_i,:] = [ 20. 10. 493. 503.]
54   cord_individual_obj[indivial_i,:] = [ 21. 13. 336. 349.]
55   cord_individual_obj[indivial_i,:] = [ 22. 12. 467. 479.]
56   cord_individual_obj[indivial_i,:] = [ 23. 11. 400. 411.]
57   cord_individual_obj[indivial_i,:] = [ 24. 14. 402. 416.]
58
59 min(cord_individual_obj[:,3]) = 322.0
60 historl_G_best_iter[iter, 3] = 322.0
61 Begin iteration:
62
63 iter = 1
64   cord_individual_obj[indivial_i,:] = [ 0. 12. 310. 322.]
65   cord_individual_obj[indivial_i,:] = [ 1. 11. 409. 420.]
66   cord_individual_obj[indivial_i,:] = [ 2. 10. 356. 366.]
67   cord_individual_obj[indivial_i,:] = [ 3. 11. 362. 373.]
68   cord_individual_obj[indivial_i,:] = [ 4. 11. 365. 376.]
69   cord_individual_obj[indivial_i,:] = [ 5. 12. 430. 442.]
70   cord_individual_obj[indivial_i,:] = [ 6. 10. 359. 369.]
71   cord_individual_obj[indivial_i,:] = [ 7. 13. 353. 366.]
72   cord_individual_obj[indivial_i,:] = [ 8. 11. 479. 490.]
73   cord_individual_obj[indivial_i,:] = [ 9. 11. 392. 403.]
74   cord_individual_obj[indivial_i,:] = [ 10. 11. 313. 324.]
75   cord_individual_obj[indivial_i,:] = [ 11. 12. 417. 429.]
76   cord_individual_obj[indivial_i,:] = [ 12. 11. 413. 424.]
77   cord_individual_obj[indivial_i,:] = [ 13. 12. 372. 384.]
78   cord_individual_obj[indivial_i,:] = [ 14. 14. 453. 467.]
79   cord_individual_obj[indivial_i,:] = [ 15. 12. 440. 452.]

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80 cord_individual_obj[indivial_i,:] = [ 16. 12. 428. 440.]
81 cord_individual_obj[indivial_i,:] = [ 17. 11. 323. 334.]
82 cord_individual_obj[indivial_i,:] = [ 18. 13. 388. 401.]
83 cord_individual_obj[indivial_i,:] = [ 19. 13. 395. 408.]
84 cord_individual_obj[indivial_i,:] = [ 20. 12. 433. 445.]
85 cord_individual_obj[indivial_i,:] = [ 21. 11. 358. 369.]
86 cord_individual_obj[indivial_i,:] = [ 22. 11. 332. 343.]
87 cord_individual_obj[indivial_i,:] = [ 23. 11. 368. 379.]
88 cord_individual_obj[indivial_i,:] = [ 24. 14. 467. 481.]
89
90 min(cord_individual_obj[:,3]) = 322.0
91 historl_G_best_iter[iter, 3] = 322.0
92 Begin iteration:
93
94 iter = 2
95 cord_individual_obj[indivial_i,:] = [ 0. 12. 416. 428.]
96 cord_individual_obj[indivial_i,:] = [ 1. 10. 284. 294.]
97 cord_individual_obj[indivial_i,:] = [ 2. 11. 387. 398.]
98 cord_individual_obj[indivial_i,:] = [ 3. 12. 436. 448.]
99 cord_individual_obj[indivial_i,:] = [ 4. 13. 327. 340.]
100 cord_individual_obj[indivial_i,:] = [ 5. 11. 433. 444.]
101 cord_individual_obj[indivial_i,:] = [ 6. 10. 445. 455.]
102 cord_individual_obj[indivial_i,:] = [ 7. 12. 401. 413.]
103 cord_individual_obj[indivial_i,:] = [ 8. 12. 310. 322.]
104 cord_individual_obj[indivial_i,:] = [ 9. 12. 470. 482.]
105 cord_individual_obj[indivial_i,:] = [ 10. 12. 327. 339.]
106 cord_individual_obj[indivial_i,:] = [ 11. 11. 393. 404.]
107 cord_individual_obj[indivial_i,:] = [ 12. 14. 391. 405.]
108 cord_individual_obj[indivial_i,:] = [ 13. 11. 413. 424.]
109 cord_individual_obj[indivial_i,:] = [ 14. 14. 442. 456.]
110 cord_individual_obj[indivial_i,:] = [ 15. 12. 364. 376.]
111 cord_individual_obj[indivial_i,:] = [ 16. 13. 398. 411.]
112 cord_individual_obj[indivial_i,:] = [ 17. 12. 388. 400.]
113 cord_individual_obj[indivial_i,:] = [ 18. 12. 344. 356.]
114 cord_individual_obj[indivial_i,:] = [ 19. 13. 455. 468.]
115 cord_individual_obj[indivial_i,:] = [ 20. 12. 402. 414.]
116 cord_individual_obj[indivial_i,:] = [ 21. 13. 361. 374.]
117 cord_individual_obj[indivial_i,:] = [ 22. 11. 294. 305.]
118 cord_individual_obj[indivial_i,:] = [ 23. 12. 539. 551.]
119 cord_individual_obj[indivial_i,:] = [ 24. 14. 457. 471.]
120
121 min(cord_individual_obj[:,3]) = 294.0
122 historl_G_best_iter[iter, 3] = 294.0
123 Begin iteration:
124
125 iter = 3
126 cord_individual_obj[indivial_i,:] = [ 0. 13. 385. 398.]
127 cord_individual_obj[indivial_i,:] = [ 1. 11. 380. 391.]
128 cord_individual_obj[indivial_i,:] = [ 2. 13. 385. 398.]
129 cord_individual_obj[indivial_i,:] = [ 3. 11. 342. 353.]
130 cord_individual_obj[indivial_i,:] = [ 4. 12. 333. 345.]
131 cord_individual_obj[indivial_i,:] = [ 5. 12. 333. 345.]
132 cord_individual_obj[indivial_i,:] = [ 6. 13. 445. 458.]
133 cord_individual_obj[indivial_i,:] = [ 7. 12. 352. 364.]
134 cord_individual_obj[indivial_i,:] = [ 8. 11. 355. 366.]
135 cord_individual_obj[indivial_i,:] = [ 9. 14. 403. 417.]
136 cord_individual_obj[indivial_i,:] = [ 10. 10. 320. 330.]
137 cord_individual_obj[indivial_i,:] = [ 11. 13. 387. 400.]
138 cord_individual_obj[indivial_i,:] = [ 12. 16. 502. 518.]
139 cord_individual_obj[indivial_i,:] = [ 13. 13. 368. 381.]
140 cord_individual_obj[indivial_i,:] = [ 14. 15. 448. 463.]
141 cord_individual_obj[indivial_i,:] = [ 15. 12. 343. 355.]
142 cord_individual_obj[indivial_i,:] = [ 16. 12. 342. 354.]
143 cord_individual_obj[indivial_i,:] = [ 17. 13. 329. 342.]
144 cord_individual_obj[indivial_i,:] = [ 18. 11. 365. 376.]
145 cord_individual_obj[indivial_i,:] = [ 19. 11. 385. 396.]
146 cord_individual_obj[indivial_i,:] = [ 20. 10. 360. 370.]
147 cord_individual_obj[indivial_i,:] = [ 21. 11. 316. 327.]
148 cord_individual_obj[indivial_i,:] = [ 22. 11. 367. 378.]
149 cord_individual_obj[indivial_i,:] = [ 23. 10. 284. 294.]
150 cord_individual_obj[indivial_i,:] = [ 24. 12. 454. 466.]
151
152 min(cord_individual_obj[:,3]) = 294.0
153 historl_G_best_iter[iter, 3] = 294.0
154 Begin iteration:
155
156 iter = 4
157 cord_individual_obj[indivial_i,:] = [ 0. 13. 359. 372.]
158 cord_individual_obj[indivial_i,:] = [ 1. 12. 373. 385.]
159 cord_individual_obj[indivial_i,:] = [ 2. 13. 342. 355.]
160 cord_individual_obj[indivial_i,:] = [ 3. 12. 333. 345.]
161 cord_individual_obj[indivial_i,:] = [ 4. 11. 349. 360.]
162 cord_individual_obj[indivial_i,:] = [ 5. 12. 351. 363.]
163 cord_individual_obj[indivial_i,:] = [ 6. 12. 350. 362.]

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164 cord_individual_obj[indivial_i,:] = [ 7. 13. 345. 358.]
165 cord_individual_obj[indivial_i,:] = [ 8. 12. 355. 367.]
166 cord_individual_obj[indivial_i,:] = [ 9. 13. 359. 372.]
167 cord_individual_obj[indivial_i,:] = [ 10. 9. 288. 297.]
168 cord_individual_obj[indivial_i,:] = [ 11. 11. 432. 443.]
169 cord_individual_obj[indivial_i,:] = [ 12. 10. 284. 294.]
170 cord_individual_obj[indivial_i,:] = [ 13. 14. 259. 273.]
171 cord_individual_obj[indivial_i,:] = [ 14. 12. 353. 365.]
172 cord_individual_obj[indivial_i,:] = [ 15. 11. 334. 345.]
173 cord_individual_obj[indivial_i,:] = [ 16. 14. 360. 374.]
174 cord_individual_obj[indivial_i,:] = [ 17. 13. 355. 368.]
175 cord_individual_obj[indivial_i,:] = [ 18. 12. 282. 294.]
176 cord_individual_obj[indivial_i,:] = [ 19. 11. 332. 343.]
177 cord_individual_obj[indivial_i,:] = [ 20. 10. 402. 412.]
178 cord_individual_obj[indivial_i,:] = [ 21. 11. 302. 313.]
179 cord_individual_obj[indivial_i,:] = [ 22. 12. 351. 363.]
180 cord_individual_obj[indivial_i,:] = [ 23. 12. 381. 393.]
181 cord_individual_obj[indivial_i,:] = [ 24. 13. 423. 436.]
182
183 min(cord_individual_obj[:,3]) = 273.0
184 historl_G_best_iter[iter, 3] = 273.0
185 Begin iteration:
186
187 iter = 5
188 cord_individual_obj[indivial_i,:] = [ 0. 11. 383. 394.]
189 cord_individual_obj[indivial_i,:] = [ 1. 12. 295. 307.]
190 cord_individual_obj[indivial_i,:] = [ 2. 13. 354. 367.]
191 cord_individual_obj[indivial_i,:] = [ 3. 12. 302. 314.]
192 cord_individual_obj[indivial_i,:] = [ 4. 13. 323. 336.]
193 cord_individual_obj[indivial_i,:] = [ 5. 11. 256. 267.]
194 cord_individual_obj[indivial_i,:] = [ 6. 12. 347. 359.]
195 cord_individual_obj[indivial_i,:] = [ 7. 10. 409. 419.]
196 cord_individual_obj[indivial_i,:] = [ 8. 16. 322. 338.]
197 cord_individual_obj[indivial_i,:] = [ 9. 12. 308. 320.]
198 cord_individual_obj[indivial_i,:] = [ 10. 12. 240. 252.]
199 cord_individual_obj[indivial_i,:] = [ 11. 14. 259. 273.]
200 cord_individual_obj[indivial_i,:] = [ 12. 13. 341. 354.]
201 cord_individual_obj[indivial_i,:] = [ 13. 11. 270. 281.]
202 cord_individual_obj[indivial_i,:] = [ 14. 11. 304. 315.]
203 cord_individual_obj[indivial_i,:] = [ 15. 11. 288. 299.]
204 cord_individual_obj[indivial_i,:] = [ 16. 11. 295. 306.]
205 cord_individual_obj[indivial_i,:] = [ 17. 13. 312. 325.]
206 cord_individual_obj[indivial_i,:] = [ 18. 13. 299. 312.]
207 cord_individual_obj[indivial_i,:] = [ 19. 11. 303. 314.]
208 cord_individual_obj[indivial_i,:] = [ 20. 13. 333. 346.]
209 cord_individual_obj[indivial_i,:] = [ 21. 11. 334. 345.]
210 cord_individual_obj[indivial_i,:] = [ 22. 12. 255. 267.]
211 cord_individual_obj[indivial_i,:] = [ 23. 13. 344. 357.]
212 cord_individual_obj[indivial_i,:] = [ 24. 11. 317. 328.]
213
214 min(cord_individual_obj[:,3]) = 252.0
215 historl_G_best_iter[iter, 3] = 252.0
216 Begin iteration:
217
218 iter = 6
219 cord_individual_obj[indivial_i,:] = [ 0. 11. 404. 415.]
220 cord_individual_obj[indivial_i,:] = [ 1. 11. 294. 305.]
221 cord_individual_obj[indivial_i,:] = [ 2. 11. 336. 347.]
222 cord_individual_obj[indivial_i,:] = [ 3. 12. 365. 377.]
223 cord_individual_obj[indivial_i,:] = [ 4. 11. 392. 403.]
224 cord_individual_obj[indivial_i,:] = [ 5. 11. 283. 294.]
225 cord_individual_obj[indivial_i,:] = [ 6. 13. 307. 320.]
226 cord_individual_obj[indivial_i,:] = [ 7. 12. 240. 252.]
227 cord_individual_obj[indivial_i,:] = [ 8. 10. 385. 395.]
228 cord_individual_obj[indivial_i,:] = [ 9. 11. 353. 364.]
229 cord_individual_obj[indivial_i,:] = [ 10. 13. 340. 353.]
230 cord_individual_obj[indivial_i,:] = [ 11. 11. 303. 314.]
231 cord_individual_obj[indivial_i,:] = [ 12. 14. 294. 308.]
232 cord_individual_obj[indivial_i,:] = [ 13. 10. 285. 295.]
233 cord_individual_obj[indivial_i,:] = [ 14. 13. 372. 385.]
234 cord_individual_obj[indivial_i,:] = [ 15. 11. 302. 313.]
235 cord_individual_obj[indivial_i,:] = [ 16. 12. 358. 370.]
236 cord_individual_obj[indivial_i,:] = [ 17. 12. 274. 286.]
237 cord_individual_obj[indivial_i,:] = [ 18. 14. 320. 334.]
238 cord_individual_obj[indivial_i,:] = [ 19. 12. 392. 404.]
239 cord_individual_obj[indivial_i,:] = [ 20. 10. 381. 391.]
240 cord_individual_obj[indivial_i,:] = [ 21. 10. 302. 312.]
241 cord_individual_obj[indivial_i,:] = [ 22. 11. 352. 363.]
242 cord_individual_obj[indivial_i,:] = [ 23. 11. 311. 322.]
243 cord_individual_obj[indivial_i,:] = [ 24. 16. 364. 380.]
244
245 min(cord_individual_obj[:,3]) = 252.0
246 historl_G_best_iter[iter, 3] = 252.0
247 Begin iteration:

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248
249 iter = 7
250 cord_individual_obj[indivial_i, :] = [ 0. 12. 240. 252.]
251 cord_individual_obj[indivial_i, :] = [ 1. 13. 272. 285.]
252 cord_individual_obj[indivial_i, :] = [ 2. 9. 249. 258.]
253 cord_individual_obj[indivial_i, :] = [ 3. 12. 354. 366.]
254 cord_individual_obj[indivial_i, :] = [ 4. 11. 242. 253.]
255 cord_individual_obj[indivial_i, :] = [ 5. 12. 281. 293.]
256 cord_individual_obj[indivial_i, :] = [ 6. 11. 314. 325.]
257 cord_individual_obj[indivial_i, :] = [ 7. 13. 310. 323.]
258 cord_individual_obj[indivial_i, :] = [ 8. 13. 355. 368.]
259 cord_individual_obj[indivial_i, :] = [ 9. 12. 310. 322.]
260 cord_individual_obj[indivial_i, :] = [ 10. 11. 296. 307.]
261 cord_individual_obj[indivial_i, :] = [ 11. 12. 282. 294.]
262 cord_individual_obj[indivial_i, :] = [ 12. 14. 297. 311.]
263 cord_individual_obj[indivial_i, :] = [ 13. 13. 317. 330.]
264 cord_individual_obj[indivial_i, :] = [ 14. 12. 300. 312.]
265 cord_individual_obj[indivial_i, :] = [ 15. 8. 294. 302.]
266 cord_individual_obj[indivial_i, :] = [ 16. 12. 294. 306.]
267 cord_individual_obj[indivial_i, :] = [ 17. 12. 338. 350.]
268 cord_individual_obj[indivial_i, :] = [ 18. 11. 306. 317.]
269 cord_individual_obj[indivial_i, :] = [ 19. 13. 382. 395.]
270 cord_individual_obj[indivial_i, :] = [ 20. 12. 335. 347.]
271 cord_individual_obj[indivial_i, :] = [ 21. 12. 278. 290.]
272 cord_individual_obj[indivial_i, :] = [ 22. 12. 307. 319.]
273 cord_individual_obj[indivial_i, :] = [ 23. 12. 257. 269.]
274 cord_individual_obj[indivial_i, :] = [ 24. 12. 306. 318.]
275

276 min(cord_individual_obj[:, 3]) = 252.0
277 historl_G_best_iter[iter, 3] = 252.0
278 Begin iteration:
279
280 iter = 8
281 cord_individual_obj[indivial_i, :] = [ 0. 13. 360. 373.]
282 cord_individual_obj[indivial_i, :] = [ 1. 12. 306. 318.]
283 cord_individual_obj[indivial_i, :] = [ 2. 10. 302. 312.]
284 cord_individual_obj[indivial_i, :] = [ 3. 10. 323. 333.]
285 cord_individual_obj[indivial_i, :] = [ 4. 11. 392. 403.]
286 cord_individual_obj[indivial_i, :] = [ 5. 11. 340. 351.]
287 cord_individual_obj[indivial_i, :] = [ 6. 11. 359. 370.]
288 cord_individual_obj[indivial_i, :] = [ 7. 14. 360. 374.]
289 cord_individual_obj[indivial_i, :] = [ 8. 12. 360. 372.]
290 cord_individual_obj[indivial_i, :] = [ 9. 13. 327. 340.]
291 cord_individual_obj[indivial_i, :] = [ 10. 12. 329. 341.]
292 cord_individual_obj[indivial_i, :] = [ 11. 11. 273. 284.]
293 cord_individual_obj[indivial_i, :] = [ 12. 13. 360. 373.]
294 cord_individual_obj[indivial_i, :] = [ 13. 12. 277. 289.]
295 cord_individual_obj[indivial_i, :] = [ 14. 13. 405. 418.]
296 cord_individual_obj[indivial_i, :] = [ 15. 11. 280. 291.]
297 cord_individual_obj[indivial_i, :] = [ 16. 13. 408. 421.]
298 cord_individual_obj[indivial_i, :] = [ 17. 10. 280. 290.]
299 cord_individual_obj[indivial_i, :] = [ 18. 12. 352. 364.]
300 cord_individual_obj[indivial_i, :] = [ 19. 12. 240. 252.]
301 cord_individual_obj[indivial_i, :] = [ 20. 11. 315. 326.]
302 cord_individual_obj[indivial_i, :] = [ 21. 11. 365. 376.]
303 cord_individual_obj[indivial_i, :] = [ 22. 12. 334. 346.]
304 cord_individual_obj[indivial_i, :] = [ 23. 13. 337. 350.]
305 cord_individual_obj[indivial_i, :] = [ 24. 12. 314. 326.]
306

307 min(cord_individual_obj[:, 3]) = 252.0
308 historl_G_best_iter[iter, 3] = 252.0
309 Begin iteration:
310
311 iter = 9
312 cord_individual_obj[indivial_i, :] = [ 0. 12. 306. 318.]
313 cord_individual_obj[indivial_i, :] = [ 1. 11. 253. 264.]
314 cord_individual_obj[indivial_i, :] = [ 2. 9. 280. 289.]
315 cord_individual_obj[indivial_i, :] = [ 3. 14. 365. 379.]
316 cord_individual_obj[indivial_i, :] = [ 4. 10. 316. 326.]
317 cord_individual_obj[indivial_i, :] = [ 5. 11. 315. 326.]
318 cord_individual_obj[indivial_i, :] = [ 6. 10. 299. 309.]
319 cord_individual_obj[indivial_i, :] = [ 7. 10. 254. 264.]
320 cord_individual_obj[indivial_i, :] = [ 8. 13. 325. 338.]
321 cord_individual_obj[indivial_i, :] = [ 9. 12. 367. 379.]
322 cord_individual_obj[indivial_i, :] = [ 10. 11. 275. 286.]
323 cord_individual_obj[indivial_i, :] = [ 11. 13. 284. 297.]
324 cord_individual_obj[indivial_i, :] = [ 12. 13. 256. 269.]
325 cord_individual_obj[indivial_i, :] = [ 13. 12. 371. 383.]
326 cord_individual_obj[indivial_i, :] = [ 14. 13. 350. 363.]
327 cord_individual_obj[indivial_i, :] = [ 15. 11. 295. 306.]
328 cord_individual_obj[indivial_i, :] = [ 16. 12. 240. 252.]
329 cord_individual_obj[indivial_i, :] = [ 17. 12. 282. 294.]
330 cord_individual_obj[indivial_i, :] = [ 18. 12. 320. 332.]
331 cord_individual_obj[indivial_i, :] = [ 19. 12. 321. 333.]

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unknown

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332 cord_individual_obj[indivial_i,:] = [ 20. 10. 320. 330.]  
333 cord_individual_obj[indivial_i,:] = [ 21. 10. 249. 259.]  
334 cord_individual_obj[indivial_i,:] = [ 22. 13. 384. 397.]  
335 cord_individual_obj[indivial_i,:] = [ 23. 12. 388. 400.]  
336 cord_individual_obj[indivial_i,:] = [ 24. 13. 335. 348.]  
337  
338 min(cord_individual_obj[:,3]) = 252.0  
339 histol_G_best_iter[iter,3] = 252.0  
340 Begin iteration:  
341  
342 iter = 10  
343 cord_individual_obj[indivial_i,:] = [ 0. 11. 411. 422.]  
344 cord_individual_obj[indivial_i,:] = [ 1. 12. 281. 293.]  
345 cord_individual_obj[indivial_i,:] = [ 2. 9. 318. 327.]  
346 cord_individual_obj[indivial_i,:] = [ 3. 13. 341. 354.]  
347 cord_individual_obj[indivial_i,:] = [ 4. 11. 306. 317.]  
348 cord_individual_obj[indivial_i,:] = [ 5. 11. 338. 349.]  
349 cord_individual_obj[indivial_i,:] = [ 6. 14. 318. 332.]  
350 cord_individual_obj[indivial_i,:] = [ 7. 14. 301. 315.]  
351 cord_individual_obj[indivial_i,:] = [ 8. 11. 382. 393.]  
352 cord_individual_obj[indivial_i,:] = [ 9. 13. 288. 301.]  
353 cord_individual_obj[indivial_i,:] = [ 10. 10. 344. 354.]  
354 cord_individual_obj[indivial_i,:] = [ 11. 13. 292. 305.]  
355 cord_individual_obj[indivial_i,:] = [ 12. 15. 394. 409.]  
356 cord_individual_obj[indivial_i,:] = [ 13. 11. 309. 320.]  
357 cord_individual_obj[indivial_i,:] = [ 14. 14. 377. 391.]  
358 cord_individual_obj[indivial_i,:] = [ 15. 10. 271. 281.]  
359 cord_individual_obj[indivial_i,:] = [ 16. 15. 396. 411.]  
360 cord_individual_obj[indivial_i,:] = [ 17. 12. 281. 293.]  
361 cord_individual_obj[indivial_i,:] = [ 18. 13. 362. 375.]  
362 cord_individual_obj[indivial_i,:] = [ 19. 13. 355. 368.]  
363 cord_individual_obj[indivial_i,:] = [ 20. 11. 301. 312.]  
364 cord_individual_obj[indivial_i,:] = [ 21. 10. 285. 295.]  
365 cord_individual_obj[indivial_i,:] = [ 22. 11. 246. 257.]  
366 cord_individual_obj[indivial_i,:] = [ 23. 12. 240. 252.]  
367 cord_individual_obj[indivial_i,:] = [ 24. 16. 365. 381.]  
368  
369 min(cord_individual_obj[:,3]) = 252.0  
370 histol_G_best_iter[iter,3] = 252.0  
371 Begin iteration:  
372  
373 iter = 11  
374 cord_individual_obj[indivial_i,:] = [ 0. 12. 240. 252.]  
375 cord_individual_obj[indivial_i,:] = [ 1. 11. 304. 315.]  
376 cord_individual_obj[indivial_i,:] = [ 2. 10. 273. 283.]  
377 cord_individual_obj[indivial_i,:] = [ 3. 12. 386. 398.]  
378 cord_individual_obj[indivial_i,:] = [ 4. 12. 292. 304.]  
379 cord_individual_obj[indivial_i,:] = [ 5. 12. 388. 400.]  
380 cord_individual_obj[indivial_i,:] = [ 6. 13. 327. 340.]  
381 cord_individual_obj[indivial_i,:] = [ 7. 13. 384. 397.]  
382 cord_individual_obj[indivial_i,:] = [ 8. 9. 322. 331.]  
383 cord_individual_obj[indivial_i,:] = [ 9. 13. 327. 340.]  
384 cord_individual_obj[indivial_i,:] = [ 10. 13. 376. 389.]  
385 cord_individual_obj[indivial_i,:] = [ 11. 12. 304. 316.]  
386 cord_individual_obj[indivial_i,:] = [ 12. 14. 353. 367.]  
387 cord_individual_obj[indivial_i,:] = [ 13. 13. 293. 306.]  
388 cord_individual_obj[indivial_i,:] = [ 14. 12. 378. 390.]  
389 cord_individual_obj[indivial_i,:] = [ 15. 11. 291. 302.]  
390 cord_individual_obj[indivial_i,:] = [ 16. 13. 358. 371.]  
391 cord_individual_obj[indivial_i,:] = [ 17. 11. 271. 282.]  
392 cord_individual_obj[indivial_i,:] = [ 18. 13. 329. 342.]  
393 cord_individual_obj[indivial_i,:] = [ 19. 11. 302. 313.]  
394 cord_individual_obj[indivial_i,:] = [ 20. 9. 307. 316.]  
395 cord_individual_obj[indivial_i,:] = [ 21. 11. 347. 358.]  
396 cord_individual_obj[indivial_i,:] = [ 22. 13. 320. 333.]  
397 cord_individual_obj[indivial_i,:] = [ 23. 13. 315. 328.]  
398 cord_individual_obj[indivial_i,:] = [ 24. 14. 340. 354.]  
399  
400 min(cord_individual_obj[:,3]) = 252.0  
401 histol_G_best_iter[iter,3] = 252.0  
402 Begin iteration:  
403  
404 iter = 12  
405 cord_individual_obj[indivial_i,:] = [ 0. 11. 368. 379.]  
406 cord_individual_obj[indivial_i,:] = [ 1. 11. 240. 251.]  
407 cord_individual_obj[indivial_i,:] = [ 2. 11. 315. 326.]  
408 cord_individual_obj[indivial_i,:] = [ 3. 14. 280. 294.]  
409 cord_individual_obj[indivial_i,:] = [ 4. 11. 250. 261.]  
410 cord_individual_obj[indivial_i,:] = [ 5. 12. 240. 252.]  
411 cord_individual_obj[indivial_i,:] = [ 6. 11. 277. 288.]  
412 cord_individual_obj[indivial_i,:] = [ 7. 14. 304. 318.]  
413 cord_individual_obj[indivial_i,:] = [ 8. 11. 345. 356.]  
414 cord_individual_obj[indivial_i,:] = [ 9. 12. 336. 348.]  
415 cord_individual_obj[indivial_i,:] = [ 10. 12. 284. 296.]
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416 cord_individual_obj[indivial_i,:] = [ 11. 13. 306. 319.]
417 cord_individual_obj[indivial_i,:] = [ 12. 12. 274. 286.]
418 cord_individual_obj[indivial_i,:] = [ 13. 11. 290. 301.]
419 cord_individual_obj[indivial_i,:] = [ 14. 11. 388. 399.]
420 cord_individual_obj[indivial_i,:] = [ 15. 12. 251. 263.]
421 cord_individual_obj[indivial_i,:] = [ 16. 13. 297. 310.]
422 cord_individual_obj[indivial_i,:] = [ 17. 12. 282. 294.]
423 cord_individual_obj[indivial_i,:] = [ 18. 12. 303. 315.]
424 cord_individual_obj[indivial_i,:] = [ 19. 13. 350. 363.]
425 cord_individual_obj[indivial_i,:] = [ 20. 10. 283. 293.]
426 cord_individual_obj[indivial_i,:] = [ 21. 10. 255. 265.]
427 cord_individual_obj[indivial_i,:] = [ 22. 11. 288. 299.]
428 cord_individual_obj[indivial_i,:] = [ 23. 12. 293. 305.]
429 cord_individual_obj[indivial_i,:] = [ 24. 12. 286. 298.]
430
431 min(cord_individual_obj[:,3]) = 251.0
432 histol_G_best_iter[iter,3] = 251.0
433 Begin iteration:
434
435 iter = 13
436 cord_individual_obj[indivial_i,:] = [ 0. 12. 351. 363.]
437 cord_individual_obj[indivial_i,:] = [ 1. 10. 267. 277.]
438 cord_individual_obj[indivial_i,:] = [ 2. 12. 230. 242.]
439 cord_individual_obj[indivial_i,:] = [ 3. 11. 281. 292.]
440 cord_individual_obj[indivial_i,:] = [ 4. 12. 278. 290.]
441 cord_individual_obj[indivial_i,:] = [ 5. 12. 297. 309.]
442 cord_individual_obj[indivial_i,:] = [ 6. 11. 255. 266.]
443 cord_individual_obj[indivial_i,:] = [ 7. 11. 262. 273.]
444 cord_individual_obj[indivial_i,:] = [ 8. 12. 249. 261.]
445 cord_individual_obj[indivial_i,:] = [ 9. 12. 218. 230.]
446 cord_individual_obj[indivial_i,:] = [ 10. 11. 298. 309.]
447 cord_individual_obj[indivial_i,:] = [ 11. 12. 347. 359.]
448 cord_individual_obj[indivial_i,:] = [ 12. 14. 253. 267.]
449 cord_individual_obj[indivial_i,:] = [ 13. 12. 252. 264.]
450 cord_individual_obj[indivial_i,:] = [ 14. 11. 240. 251.]
451 cord_individual_obj[indivial_i,:] = [ 15. 11. 312. 323.]
452 cord_individual_obj[indivial_i,:] = [ 16. 13. 221. 234.]
453 cord_individual_obj[indivial_i,:] = [ 17. 12. 266. 278.]
454 cord_individual_obj[indivial_i,:] = [ 18. 12. 203. 215.]
455 cord_individual_obj[indivial_i,:] = [ 19. 12. 303. 315.]
456 cord_individual_obj[indivial_i,:] = [ 20. 12. 307. 319.]
457 cord_individual_obj[indivial_i,:] = [ 21. 11. 253. 264.]
458 cord_individual_obj[indivial_i,:] = [ 22. 11. 287. 298.]
459 cord_individual_obj[indivial_i,:] = [ 23. 12. 279. 291.]
460 cord_individual_obj[indivial_i,:] = [ 24. 14. 346. 360.]
461
462 min(cord_individual_obj[:,3]) = 215.0
463 histol_G_best_iter[iter,3] = 215.0
464 Begin iteration:
465
466 iter = 14
467 cord_individual_obj[indivial_i,:] = [ 0. 12. 203. 215.]
468 cord_individual_obj[indivial_i,:] = [ 1. 12. 295. 307.]
469 cord_individual_obj[indivial_i,:] = [ 2. 11. 235. 246.]
470 cord_individual_obj[indivial_i,:] = [ 3. 11. 240. 251.]
471 cord_individual_obj[indivial_i,:] = [ 4. 12. 316. 328.]
472 cord_individual_obj[indivial_i,:] = [ 5. 11. 232. 243.]
473 cord_individual_obj[indivial_i,:] = [ 6. 13. 327. 340.]
474 cord_individual_obj[indivial_i,:] = [ 7. 12. 253. 265.]
475 cord_individual_obj[indivial_i,:] = [ 8. 12. 287. 299.]
476 cord_individual_obj[indivial_i,:] = [ 9. 13. 307. 320.]
477 cord_individual_obj[indivial_i,:] = [ 10. 11. 302. 313.]
478 cord_individual_obj[indivial_i,:] = [ 11. 10. 254. 264.]
479 cord_individual_obj[indivial_i,:] = [ 12. 11. 258. 269.]
480 cord_individual_obj[indivial_i,:] = [ 13. 11. 312. 323.]
481 cord_individual_obj[indivial_i,:] = [ 14. 12. 354. 366.]
482 cord_individual_obj[indivial_i,:] = [ 15. 9. 276. 285.]
483 cord_individual_obj[indivial_i,:] = [ 16. 12. 261. 273.]
484 cord_individual_obj[indivial_i,:] = [ 17. 13. 248. 261.]
485 cord_individual_obj[indivial_i,:] = [ 18. 11. 252. 263.]
486 cord_individual_obj[indivial_i,:] = [ 19. 15. 329. 344.]
487 cord_individual_obj[indivial_i,:] = [ 20. 13. 343. 356.]
488 cord_individual_obj[indivial_i,:] = [ 21. 11. 196. 207.]
489 cord_individual_obj[indivial_i,:] = [ 22. 11. 295. 306.]
490 cord_individual_obj[indivial_i,:] = [ 23. 13. 296. 309.]
491 cord_individual_obj[indivial_i,:] = [ 24. 12. 265. 277.]
492
493 min(cord_individual_obj[:,3]) = 207.0
494 histol_G_best_iter[iter,3] = 207.0
495 Begin iteration:
496
497 iter = 15
498 cord_individual_obj[indivial_i,:] = [ 0. 9. 204. 213.]
499 cord_individual_obj[indivial_i,:] = [ 1. 13. 253. 266.]

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500 cord_individual_obj[indivial_i, :] = [ 2. 12. 198. 210.]
501 cord_individual_obj[indivial_i, :] = [ 3. 11. 245. 256.]
502 cord_individual_obj[indivial_i, :] = [ 4. 13. 233. 246.]
503 cord_individual_obj[indivial_i, :] = [ 5. 10. 233. 243.]
504 cord_individual_obj[indivial_i, :] = [ 6. 12. 251. 263.]
505 cord_individual_obj[indivial_i, :] = [ 7. 13. 234. 247.]
506 cord_individual_obj[indivial_i, :] = [ 8. 11. 246. 257.]
507 cord_individual_obj[indivial_i, :] = [ 9. 13. 231. 244.]
508 cord_individual_obj[indivial_i, :] = [ 10. 11. 287. 298.]
509 cord_individual_obj[indivial_i, :] = [ 11. 12. 270. 282.]
510 cord_individual_obj[indivial_i, :] = [ 12. 13. 222. 235.]
511 cord_individual_obj[indivial_i, :] = [ 13. 13. 236. 249.]
512 cord_individual_obj[indivial_i, :] = [ 14. 11. 196. 207.]
513 cord_individual_obj[indivial_i, :] = [ 15. 13. 253. 266.]
514 cord_individual_obj[indivial_i, :] = [ 16. 11. 215. 226.]
515 cord_individual_obj[indivial_i, :] = [ 17. 15. 273. 288.]
516 cord_individual_obj[indivial_i, :] = [ 18. 13. 226. 239.]
517 cord_individual_obj[indivial_i, :] = [ 19. 12. 220. 232.]
518 cord_individual_obj[indivial_i, :] = [ 20. 12. 223. 235.]
519 cord_individual_obj[indivial_i, :] = [ 21. 11. 221. 232.]
520 cord_individual_obj[indivial_i, :] = [ 22. 12. 246. 258.]
521 cord_individual_obj[indivial_i, :] = [ 23. 13. 260. 273.]
522 cord_individual_obj[indivial_i, :] = [ 24. 14. 244. 258.]
523
524 min(cord_individual_obj[:, 3]) = 207.0
525 histol_G_best_iter[iter, 3] = 207.0
526 Begin iteration:
527
528 iter = 16
529 cord_individual_obj[indivial_i, :] = [ 0. 12. 216. 228.]
530 cord_individual_obj[indivial_i, :] = [ 1. 11. 170. 181.]
531 cord_individual_obj[indivial_i, :] = [ 2. 10. 221. 231.]
532 cord_individual_obj[indivial_i, :] = [ 3. 12. 210. 222.]
533 cord_individual_obj[indivial_i, :] = [ 4. 14. 218. 232.]
534 cord_individual_obj[indivial_i, :] = [ 5. 12. 225. 237.]
535 cord_individual_obj[indivial_i, :] = [ 6. 13. 288. 301.]
536 cord_individual_obj[indivial_i, :] = [ 7. 11. 235. 246.]
537 cord_individual_obj[indivial_i, :] = [ 8. 10. 172. 182.]
538 cord_individual_obj[indivial_i, :] = [ 9. 12. 237. 249.]
539 cord_individual_obj[indivial_i, :] = [ 10. 11. 196. 207.]
540 cord_individual_obj[indivial_i, :] = [ 11. 13. 205. 218.]
541 cord_individual_obj[indivial_i, :] = [ 12. 11. 228. 239.]
542 cord_individual_obj[indivial_i, :] = [ 13. 8. 170. 178.]
543 cord_individual_obj[indivial_i, :] = [ 14. 12. 216. 228.]
544 cord_individual_obj[indivial_i, :] = [ 15. 10. 235. 245.]
545 cord_individual_obj[indivial_i, :] = [ 16. 13. 251. 264.]
546 cord_individual_obj[indivial_i, :] = [ 17. 12. 243. 255.]
547 cord_individual_obj[indivial_i, :] = [ 18. 10. 247. 257.]
548 cord_individual_obj[indivial_i, :] = [ 19. 11. 259. 270.]
549 cord_individual_obj[indivial_i, :] = [ 20. 12. 215. 227.]
550 cord_individual_obj[indivial_i, :] = [ 21. 11. 221. 232.]
551 cord_individual_obj[indivial_i, :] = [ 22. 12. 281. 293.]
552 cord_individual_obj[indivial_i, :] = [ 23. 13. 216. 229.]
553 cord_individual_obj[indivial_i, :] = [ 24. 11. 292. 303.]
554
555 min(cord_individual_obj[:, 3]) = 178.0
556 histol_G_best_iter[iter, 3] = 178.0
557 Begin iteration:
558
559 iter = 17
560 cord_individual_obj[indivial_i, :] = [ 0. 14. 228. 242.]
561 cord_individual_obj[indivial_i, :] = [ 1. 13. 286. 299.]
562 cord_individual_obj[indivial_i, :] = [ 2. 11. 204. 215.]
563 cord_individual_obj[indivial_i, :] = [ 3. 13. 275. 288.]
564 cord_individual_obj[indivial_i, :] = [ 4. 12. 281. 293.]
565 cord_individual_obj[indivial_i, :] = [ 5. 10. 209. 219.]
566 cord_individual_obj[indivial_i, :] = [ 6. 10. 246. 256.]
567 cord_individual_obj[indivial_i, :] = [ 7. 12. 209. 221.]
568 cord_individual_obj[indivial_i, :] = [ 8. 11. 207. 218.]
569 cord_individual_obj[indivial_i, :] = [ 9. 12. 210. 222.]
570 cord_individual_obj[indivial_i, :] = [ 10. 10. 214. 224.]
571 cord_individual_obj[indivial_i, :] = [ 11. 13. 206. 219.]
572 cord_individual_obj[indivial_i, :] = [ 12. 13. 238. 251.]
573 cord_individual_obj[indivial_i, :] = [ 13. 14. 255. 269.]
574 cord_individual_obj[indivial_i, :] = [ 14. 14. 242. 256.]
575 cord_individual_obj[indivial_i, :] = [ 15. 10. 216. 226.]
576 cord_individual_obj[indivial_i, :] = [ 16. 14. 257. 271.]
577 cord_individual_obj[indivial_i, :] = [ 17. 12. 252. 264.]
578 cord_individual_obj[indivial_i, :] = [ 18. 12. 191. 203.]
579 cord_individual_obj[indivial_i, :] = [ 19. 14. 304. 318.]
580 cord_individual_obj[indivial_i, :] = [ 20. 14. 251. 265.]
581 cord_individual_obj[indivial_i, :] = [ 21. 11. 255. 266.]
582 cord_individual_obj[indivial_i, :] = [ 22. 11. 202. 213.]
583 cord_individual_obj[indivial_i, :] = [ 23. 10. 191. 201.]

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584     cord_individual_obj[indivial_i, :] = [ 24.  8. 170. 178.]
585
586     min(cord_individual_obj[:, 3]) = 178.0
587     historl_G_best_iter[iter, 3] = 178.0
588 Begin iteration:
589
590 iter = 18
591     cord_individual_obj[indivial_i, :] = [ 0. 12. 298. 310.]
592     cord_individual_obj[indivial_i, :] = [ 1. 11. 200. 211.]
593     cord_individual_obj[indivial_i, :] = [ 2. 11. 219. 230.]
594     cord_individual_obj[indivial_i, :] = [ 3. 11. 234. 245.]
595     cord_individual_obj[indivial_i, :] = [ 4. 11. 235. 246.]
596     cord_individual_obj[indivial_i, :] = [ 5. 10. 259. 269.]
597     cord_individual_obj[indivial_i, :] = [ 6. 12. 259. 271.]
598     cord_individual_obj[indivial_i, :] = [ 7. 13. 281. 294.]
599     cord_individual_obj[indivial_i, :] = [ 8. 14. 251. 265.]
600     cord_individual_obj[indivial_i, :] = [ 9. 13. 272. 285.]
601     cord_individual_obj[indivial_i, :] = [ 10. 11. 225. 236.]
602     cord_individual_obj[indivial_i, :] = [ 11. 12. 226. 238.]
603     cord_individual_obj[indivial_i, :] = [ 12. 12. 253. 265.]
604     cord_individual_obj[indivial_i, :] = [ 13. 12. 238. 250.]
605     cord_individual_obj[indivial_i, :] = [ 14. 13. 274. 287.]
606     cord_individual_obj[indivial_i, :] = [ 15. 11. 268. 279.]
607     cord_individual_obj[indivial_i, :] = [ 16. 14. 235. 249.]
608     cord_individual_obj[indivial_i, :] = [ 17. 11. 292. 303.]
609     cord_individual_obj[indivial_i, :] = [ 18. 12. 289. 301.]
610     cord_individual_obj[indivial_i, :] = [ 19. 8. 170. 178.]
611     cord_individual_obj[indivial_i, :] = [ 20. 12. 239. 251.]
612     cord_individual_obj[indivial_i, :] = [ 21. 10. 276. 286.]
613     cord_individual_obj[indivial_i, :] = [ 22. 10. 205. 215.]
614     cord_individual_obj[indivial_i, :] = [ 23. 11. 249. 260.]
615     cord_individual_obj[indivial_i, :] = [ 24. 13. 266. 279.]
616
617     min(cord_individual_obj[:, 3]) = 178.0
618     historl_G_best_iter[iter, 3] = 178.0
619 Begin iteration:
620
621 iter = 19
622     cord_individual_obj[indivial_i, :] = [ 0. 8. 170. 178.]
623     cord_individual_obj[indivial_i, :] = [ 1. 10. 264. 274.]
624     cord_individual_obj[indivial_i, :] = [ 2. 11. 232. 243.]
625     cord_individual_obj[indivial_i, :] = [ 3. 12. 237. 249.]
626     cord_individual_obj[indivial_i, :] = [ 4. 13. 265. 278.]
627     cord_individual_obj[indivial_i, :] = [ 5. 11. 220. 231.]
628     cord_individual_obj[indivial_i, :] = [ 6. 11. 283. 294.]
629     cord_individual_obj[indivial_i, :] = [ 7. 11. 271. 282.]
630     cord_individual_obj[indivial_i, :] = [ 8. 12. 225. 237.]
631     cord_individual_obj[indivial_i, :] = [ 9. 12. 270. 282.]
632     cord_individual_obj[indivial_i, :] = [ 10. 11. 279. 290.]
633     cord_individual_obj[indivial_i, :] = [ 11. 11. 221. 232.]
634     cord_individual_obj[indivial_i, :] = [ 12. 11. 274. 285.]
635     cord_individual_obj[indivial_i, :] = [ 13. 13. 248. 261.]
636     cord_individual_obj[indivial_i, :] = [ 14. 13. 312. 325.]
637     cord_individual_obj[indivial_i, :] = [ 15. 11. 244. 255.]
638     cord_individual_obj[indivial_i, :] = [ 16. 11. 278. 289.]
639     cord_individual_obj[indivial_i, :] = [ 17. 11. 285. 296.]
640     cord_individual_obj[indivial_i, :] = [ 18. 11. 255. 266.]
641     cord_individual_obj[indivial_i, :] = [ 19. 14. 367. 381.]
642     cord_individual_obj[indivial_i, :] = [ 20. 11. 214. 225.]
643     cord_individual_obj[indivial_i, :] = [ 21. 10. 260. 270.]
644     cord_individual_obj[indivial_i, :] = [ 22. 11. 248. 259.]
645     cord_individual_obj[indivial_i, :] = [ 23. 11. 262. 273.]
646     cord_individual_obj[indivial_i, :] = [ 24. 13. 245. 258.]
647
648     min(cord_individual_obj[:, 3]) = 178.0
649     historl_G_best_iter[iter, 3] = 178.0
650 Begin iteration:
651
652 iter = 20
653     cord_individual_obj[indivial_i, :] = [ 0. 12. 298. 310.]
654     cord_individual_obj[indivial_i, :] = [ 1. 9. 263. 272.]
655     cord_individual_obj[indivial_i, :] = [ 2. 11. 263. 274.]
656     cord_individual_obj[indivial_i, :] = [ 3. 11. 328. 339.]
657     cord_individual_obj[indivial_i, :] = [ 4. 11. 315. 326.]
658     cord_individual_obj[indivial_i, :] = [ 5. 10. 303. 313.]
659     cord_individual_obj[indivial_i, :] = [ 6. 11. 275. 286.]
660     cord_individual_obj[indivial_i, :] = [ 7. 11. 191. 202.]
661     cord_individual_obj[indivial_i, :] = [ 8. 11. 262. 273.]
662     cord_individual_obj[indivial_i, :] = [ 9. 13. 263. 276.]
663     cord_individual_obj[indivial_i, :] = [ 10. 11. 288. 299.]
664     cord_individual_obj[indivial_i, :] = [ 11. 13. 252. 265.]
665     cord_individual_obj[indivial_i, :] = [ 12. 13. 277. 290.]
666     cord_individual_obj[indivial_i, :] = [ 13. 12. 259. 271.]
667     cord_individual_obj[indivial_i, :] = [ 14. 12. 249. 261.]

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668 cord_individual_obj[indivial_i,:] = [ 15. 10. 287. 297.]
669 cord_individual_obj[indivial_i,:] = [ 16. 11. 264. 275.]
670 cord_individual_obj[indivial_i,:] = [ 17. 12. 255. 267.]
671 cord_individual_obj[indivial_i,:] = [ 18. 12. 292. 304.]
672 cord_individual_obj[indivial_i,:] = [ 19. 8. 170. 178.]
673 cord_individual_obj[indivial_i,:] = [ 20. 12. 275. 287.]
674 cord_individual_obj[indivial_i,:] = [ 21. 10. 227. 237.]
675 cord_individual_obj[indivial_i,:] = [ 22. 11. 249. 260.]
676 cord_individual_obj[indivial_i,:] = [ 23. 11. 238. 249.]
677 cord_individual_obj[indivial_i,:] = [ 24. 13. 246. 259.]
678
679 min(cord_individual_obj[:,3]) = 178.0
680 historl_G_best_iter[iter,3] = 178.0
681 Iteration calculate over
682
683
684
685
686 All item are in Bin and:
687 Bin area = 1080
688 Real_area = 321.0
689 Proportion_of_area = 0.2972222222222222
690 BEST_CHROM =
691 berth: [ 8.5 2. 24.5 17. 2. 7. 8. 16.5 19.5 2.5 4.5 25.5 9. 25.
692 23.5 23.5 2.5 15.5 8.5 13.5]
693 time: [6. 7. 7. 2. 6. 3. 7. 6. 3. 2. 5. 3. 1. 5. 2. 0. 0. 0. 0. 3.]
694 num_QC: [4. 3. 4. 4. 3. 4. 4. 4. 3. 2. 4. 4. 3. 4. 4. 3. 4. 5. 3. 3.]
695 Objective function values and some other indicators:
696 Obj0 = 8.00          Obj1 = 170.00        Obj0 + Obj1 = 178.00
697 Total movement of crane: 28.00
698 Total waiting time in berth position: 68.00
699 Total index of q during berthing: 1198.00
700 Specific arrangement for each vessel:
701 V_id: 0      li: 9.0           xi: 8.5       bow of i: 4.0           tail of i: 13.0           gama_i0: 6.0           gama_i1: 6.0
80.0          work load gap_i: 0   gama_i1 + 1: 7.0   gama_i1 - gama_i0: 0.0   duration_time_i: 1.0
702 V_id: 1      li: 4.0           xi: 2.0       bow of i: 0.0           tail of i: 4.0           gama_i0: 7.0           gama_i1: 8.0
80.0          work load gap_i: 0   gama_i1 + 1: 9.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
703 V_id: 2      li: 9.0           xi: 24.5      bow of i: 20.0          tail of i: 29.0           gama_i0: 7.0           gama_i1: 8
.0          work load gap_i: 0    gama_i1 + 1: 9.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
load_i: 120.0
704 V_id: 3      li: 8.0           xi: 17.0      bow of i: 13.0          tail of i: 21.0           gama_i0: 2.0           gama_i1: 2
.0          work load gap_i: 0    gama_i1 + 1: 3.0   gama_i1 - gama_i0: 0.0   duration_time_i: 1.0
load_i: 60.0
705 V_id: 4      li: 4.0           xi: 2.0       bow of i: 0.0           tail of i: 4.0           gama_i0: 6.0           gama_i1: 6.0
60.0          work load gap_i: 0   gama_i1 + 1: 7.0   gama_i1 - gama_i0: 0.0   duration_time_i: 1.0
706 V_id: 5      li: 4.0           xi: 7.0       bow of i: 5.0           tail of i: 9.0           gama_i0: 3.0           gama_i1: 4.0
100.0         work load gap_i: 0  gama_i1 + 1: 5.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
707 V_id: 6      li: 8.0           xi: 8.0       bow of i: 4.0           tail of i: 12.0          gama_i0: 7.0           gama_i1: 8.0
160.0         work load gap_i: 0  gama_i1 + 1: 9.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
708 V_id: 7      li: 7.0           xi: 16.5      bow of i: 13.0          tail of i: 20.0          gama_i0: 6.0           gama_i1: 7
.0          work load gap_i: 0    gama_i1 + 1: 8.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
load_i: 160.0
709 V_id: 8      li: 3.0           xi: 19.5      bow of i: 18.0          tail of i: 21.0          gama_i0: 3.0           gama_i1: 5
.0          work load gap_i: 0    gama_i1 + 1: 6.0   gama_i1 - gama_i0: 2.0   duration_time_i: 3.0
load_i: 140.0
710 V_id: 9      li: 5.0           xi: 2.5       bow of i: 0.0           tail of i: 5.0           gama_i0: 2.0           gama_i1: 4.0
100.0         work load gap_i: 0  gama_i1 + 1: 5.0   gama_i1 - gama_i0: 2.0   duration_time_i: 3.0
711 V_id: 10     li: 9.0           xi: 4.5       bow of i: 0.0           tail of i: 9.0           gama_i0: 5.0           gama_i1: 5.0
80.0          work load gap_i: 0  gama_i1 + 1: 6.0   gama_i1 - gama_i0: 0.0   duration_time_i: 1.0
712 V_id: 11     li: 9.0           xi: 25.5      bow of i: 21.0          tail of i: 30.0          gama_i0: 3.0           gama_i1
.4          work load gap_i: 0    gama_i1 + 1: 5.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
load_i: 160.0
713 V_id: 12     li: 8.0           xi: 9.0       bow of i: 5.0           tail of i: 13.0          gama_i0: 1.0           gama_i1: 2
.0          work load gap_i: 0    gama_i1 + 1: 3.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
load_i: 80.0
714 V_id: 13     li: 8.0           xi: 25.0      bow of i: 21.0          tail of i: 29.0          gama_i0: 5.0           gama_i1
.6          work load gap_i: 0    gama_i1 + 1: 7.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
load_i: 160.0
715 V_id: 14     li: 5.0           xi: 23.5      bow of i: 21.0          tail of i: 26.0          gama_i0: 2.0           gama_i1
.2          work load gap_i: 0    gama_i1 + 1: 3.0   gama_i1 - gama_i0: 0.0   duration_time_i: 1.0
load_i: 80.0
716 V_id: 15     li: 9.0           xi: 23.5      bow of i: 19.0          tail of i: 28.0          gama_i0: 0.0           gama_i1
.1          work load gap_i: 0    gama_i1 + 1: 2.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0
load_i: 120.0
717 V_id: 16     li: 5.0           xi: 2.5       bow of i: 0.0           tail of i: 5.0           gama_i0: 0.0           gama_i1: 1.0
120.0         work load gap_i: 0  gama_i1 + 1: 2.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0

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unknown

718	V_id: 17 : 0.0 load_i: 60.0	li: 7.0 gama_i1 + 1: 1.0 work load gap_i: 0	xi: 15.5 gama_i1 - gama_i0: 0.0	bow of i: 12.0 gama_i1 - gama_i0: 0.0	tail of i: 19.0 duration_time_i: 1.0	gama_i0: 0.0 demand_i: 60.0	gama_i1 work
719	V_id: 18 .0 load_i: 60.0	li: 7.0 gama_i1 + 1: 1.0 work load gap_i: 0	xi: 8.5 gama_i1 - gama_i0: 0.0	bow of i: 5.0 gama_i1 - gama_i0: 0.0	tail of i: 12.0 duration_time_i: 1.0	gama_i0: 0.0 demand_i: 60.0	gama_i1: 0 work
720	V_id: 19 : 5.0 load_i: 140.0	li: 9.0 gama_i1 + 1: 6.0 work load gap_i: 0	xi: 13.5 gama_i1 - gama_i0: 2.0	bow of i: 9.0 gama_i1 - gama_i0: 2.0	tail of i: 18.0 duration_time_i: 3.0	gama_i0: 3.0 demand_i: 140.0	gama_i1 work

721

722 Algorithm finished and the total CPU time: 528 s

723 End

724