```
1  "E:\1 □□□□\3 □□□□□\1 □□□□□□\1 □□□□□□□□\1_□□□□□□_□□□□\1_LW_□□□□□2\6 □□□□\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=11917
2
3  import sys; print('Python %s on %s' % (sys.version, sys.platform))
4  sys.path.extend(['E:\\1 □□□□\\3 □□□□□\\1 □□□□□□\\1 □□□□□□□□\\1_□□□□□□_□□□□\\1_LW_□□□□□2\\6 □□□□\\2 python code\\
   01_My_Python_Code', 'E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW_□□□□□2/6 □□□□/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 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW_□□□□□2/6 □□□□/2 python code/01_My_Python_Code/
   main_BACASP_offical_PSO_2D_Bin_berth_line.py', wdir='E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□/1_□□□□□□_□□□□/1_LW_□□□□□2/6
   □□□□/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_6_1 _standerd_test.xlsx  optimization process.
14
15 Start
16    Read basic data
17       V = 6
18       T = 36
19       Q = 23
20       L = 30
21    PSO parameter setting:
22       Trail = 23
23       maxlter_num = 20
24       W_inertia = 1.0
25       oder_type_num = 10
26       c1 = 2.0
27       c2 = 1.5
28       r1 = 0.35889912958374615
29       r2 = 0.35889912958374615
30 Begin iteration:
31
32 iter = 0
33       cord_individul_obj[indivial_i, :] = [ 0.  6. 34. 40.]
34       cord_individul_obj[indivial_i, :] = [ 1.  5. 32. 37.]
35       cord_individul_obj[indivial_i, :] = [ 2.  4. 34. 38.]
36       cord_individul_obj[indivial_i, :] = [ 3.  3. 88. 91.]
37       cord_individul_obj[indivial_i, :] = [ 4.  6. 18. 24.]
38       cord_individul_obj[indivial_i, :] = [ 5.  5. 48. 53.]
39       cord_individul_obj[indivial_i, :] = [ 6.  4. 18. 22.]
40       cord_individul_obj[indivial_i, :] = [ 7.  4. 62. 66.]
41       cord_individul_obj[indivial_i, :] = [ 8.  5. 88. 93.]
42       cord_individul_obj[indivial_i, :] = [ 9.  4. 84. 88.]
43
44    min(cord_individul_obj[:, 3]) = 22.0
45    historl_G_best_iter[iter, 3] = 22.0
46 Begin iteration:
47
48 iter = 1
49       cord_individul_obj[indivial_i, :] = [ 0.  4. 12. 16.]
50       cord_individul_obj[indivial_i, :] = [ 1.  5.  8. 13.]
51       cord_individul_obj[indivial_i, :] = [ 2.  6. 48. 54.]
52       cord_individul_obj[indivial_i, :] = [ 3.  6. 12. 18.]
53       cord_individul_obj[indivial_i, :] = [ 4.  3.  8. 11.]
54       cord_individul_obj[indivial_i, :] = [ 5.  5. 16. 21.]
55       cord_individul_obj[indivial_i, :] = [ 6.  4.  8. 12.]
56       cord_individul_obj[indivial_i, :] = [ 7.  6. 12. 18.]
57       cord_individul_obj[indivial_i, :] = [ 8.  4. 18. 22.]
58       cord_individul_obj[indivial_i, :] = [ 9.  4. 30. 34.]
59
60    min(cord_individul_obj[:, 3]) = 11.0
61    historl_G_best_iter[iter, 3] = 11.0
62 Begin iteration:
63
64 iter = 2
65       cord_individul_obj[indivial_i, :] = [ 0.  4. 12. 16.]
66       cord_individul_obj[indivial_i, :] = [ 1.  6. 12. 18.]
67       cord_individul_obj[indivial_i, :] = [ 2.  3.  8. 11.]
68       cord_individul_obj[indivial_i, :] = [ 3.  5. 24. 29.]
69       cord_individul_obj[indivial_i, :] = [ 4.  3. 44. 47.]
70       cord_individul_obj[indivial_i, :] = [ 5.  5. 72. 77.]
71       cord_individul_obj[indivial_i, :] = [ 6.  4. 62. 66.]
72       cord_individul_obj[indivial_i, :] = [ 7.  4. 12. 16.]
73       cord_individul_obj[indivial_i, :] = [ 8.  5. 12. 17.]
74       cord_individul_obj[indivial_i, :] = [ 9.  3. 72. 75.]
75
76    min(cord_individul_obj[:, 3]) = 11.0
77    historl_G_best_iter[iter, 3] = 11.0
78 Begin iteration:
79
```

```
 80   iter = 3
 81        cord_individul_obj[indivial_i, :] = [ 0.  4.  8. 12.]
 82        cord_individul_obj[indivial_i, :] = [ 1.  6. 18. 24.]
 83        cord_individul_obj[indivial_i, :] = [ 2.  3. 20. 23.]
 84        cord_individul_obj[indivial_i, :] = [ 3.  5. 12. 17.]
 85        cord_individul_obj[indivial_i, :] = [ 4.  3. 24. 27.]
 86        cord_individul_obj[indivial_i, :] = [ 5.  3.  8. 11.]
 87        cord_individul_obj[indivial_i, :] = [ 6.  4. 40. 44.]
 88        cord_individul_obj[indivial_i, :] = [ 7.  4. 12. 16.]
 89        cord_individul_obj[indivial_i, :] = [ 8.  5. 62. 67.]
 90        cord_individul_obj[indivial_i, :] = [ 9.  3. 20. 23.]
 91
 92     min(cord_individul_obj[:, 3]) = 11.0
 93     historl_G_best_iter[iter, 3] = 11.0
 94  Begin iteration:
 95
 96   iter = 4
 97        cord_individul_obj[indivial_i, :] = [ 0.  4. 20. 24.]
 98        cord_individul_obj[indivial_i, :] = [ 1.  5. 12. 17.]
 99        cord_individul_obj[indivial_i, :] = [ 2.  3. 20. 23.]
100        cord_individul_obj[indivial_i, :] = [ 3.  5. 40. 45.]
101        cord_individul_obj[indivial_i, :] = [ 4.  3. 24. 27.]
102        cord_individul_obj[indivial_i, :] = [ 5.  5. 20. 25.]
103        cord_individul_obj[indivial_i, :] = [ 6.  3. 32. 35.]
104        cord_individul_obj[indivial_i, :] = [ 7.  4. 12. 16.]
105        cord_individul_obj[indivial_i, :] = [ 8.  3.  8. 11.]
106        cord_individul_obj[indivial_i, :] = [ 9.  3. 64. 67.]
107
108     min(cord_individul_obj[:, 3]) = 11.0
109     historl_G_best_iter[iter, 3] = 11.0
110  Begin iteration:
111
112   iter = 5
113        cord_individul_obj[indivial_i, :] = [ 0.  4.  8. 12.]
114        cord_individul_obj[indivial_i, :] = [ 1.  6. 32. 38.]
115        cord_individul_obj[indivial_i, :] = [ 2.  3. 20. 23.]
116        cord_individul_obj[indivial_i, :] = [ 3.  5. 44. 49.]
117        cord_individul_obj[indivial_i, :] = [ 4.  3. 44. 47.]
118        cord_individul_obj[indivial_i, :] = [ 5.  5. 64. 69.]
119        cord_individul_obj[indivial_i, :] = [ 6.  4. 44. 48.]
120        cord_individul_obj[indivial_i, :] = [ 7.  4. 12. 16.]
121        cord_individul_obj[indivial_i, :] = [ 8.  5. 52. 57.]
122        cord_individul_obj[indivial_i, :] = [ 9.  3.  8. 11.]
123
124     min(cord_individul_obj[:, 3]) = 11.0
125     historl_G_best_iter[iter, 3] = 11.0
126  Begin iteration:
127
128   iter = 6
129        cord_individul_obj[indivial_i, :] = [ 0.  3.  8. 11.]
130        cord_individul_obj[indivial_i, :] = [ 1.  6. 80. 86.]
131        cord_individul_obj[indivial_i, :] = [ 2.  3. 16. 19.]
132        cord_individul_obj[indivial_i, :] = [ 3.  5.  8. 13.]
133        cord_individul_obj[indivial_i, :] = [ 4.  3. 56. 59.]
134        cord_individul_obj[indivial_i, :] = [ 5.  3.  8. 11.]
135        cord_individul_obj[indivial_i, :] = [ 6.  4.  8. 12.]
136        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
137        cord_individul_obj[indivial_i, :] = [ 8.   6. 122. 128.]
138        cord_individul_obj[indivial_i, :] = [ 9.  3. 20. 23.]
139
140     min(cord_individul_obj[:, 3]) = 11.0
141     historl_G_best_iter[iter, 3] = 11.0
142  Begin iteration:
143
144   iter = 7
145        cord_individul_obj[indivial_i, :] = [ 0.  4. 36. 40.]
146        cord_individul_obj[indivial_i, :] = [ 1.  5. 20. 25.]
147        cord_individul_obj[indivial_i, :] = [ 2.  3. 36. 39.]
148        cord_individul_obj[indivial_i, :] = [ 3.  3. 20. 23.]
149        cord_individul_obj[indivial_i, :] = [ 4.  3. 68. 71.]
150        cord_individul_obj[indivial_i, :] = [ 5.  5. 20. 25.]
151        cord_individul_obj[indivial_i, :] = [ 6.  4. 32. 36.]
152        cord_individul_obj[indivial_i, :] = [ 7.  6. 12. 18.]
153        cord_individul_obj[indivial_i, :] = [ 8.  3.  8. 11.]
154        cord_individul_obj[indivial_i, :] = [ 9.  3. 18. 21.]
155
156     min(cord_individul_obj[:, 3]) = 11.0
157     historl_G_best_iter[iter, 3] = 11.0
158  Begin iteration:
159
160   iter = 8
161        cord_individul_obj[indivial_i, :] = [ 0.  4. 36. 40.]
162        cord_individul_obj[indivial_i, :] = [ 1.  5. 18. 23.]
163        cord_individul_obj[indivial_i, :] = [ 2.  3. 36. 39.]
```

```
164        cord_individul_obj[indivial_i, :] = [ 3.  5. 36. 41.]
165        cord_individul_obj[indivial_i, :] = [ 4.  3.  8. 11.]
166        cord_individul_obj[indivial_i, :] = [ 5.  5. 20. 25.]
167        cord_individul_obj[indivial_i, :] = [ 6.  3. 54. 57.]
168        cord_individul_obj[indivial_i, :] = [ 7.  4. 20. 24.]
169        cord_individul_obj[indivial_i, :] = [ 8.  5. 18. 23.]
170        cord_individul_obj[indivial_i, :] = [ 9.  3. 72. 75.]
171
172     min(cord_individul_obj[:, 3]) =  11.0
173     historl_G_best_iter[iter, 3] =  11.0
174  Begin iteration:
175
176  iter =  9
177        cord_individul_obj[indivial_i, :] = [ 0.  4.  8. 12.]
178        cord_individul_obj[indivial_i, :] = [ 1.  6.  8. 14.]
179        cord_individul_obj[indivial_i, :] = [  2.   3. 110. 113.]
180        cord_individul_obj[indivial_i, :] = [ 3.  3.  8. 11.]
181        cord_individul_obj[indivial_i, :] = [ 4.  3. 40. 43.]
182        cord_individul_obj[indivial_i, :] = [ 5.  3. 68. 71.]
183        cord_individul_obj[indivial_i, :] = [ 6.  4. 36. 40.]
184        cord_individul_obj[indivial_i, :] = [ 7.  4. 18. 22.]
185        cord_individul_obj[indivial_i, :] = [ 8.  6. 24. 30.]
186        cord_individul_obj[indivial_i, :] = [ 9.  3.  8. 11.]
187
188     min(cord_individul_obj[:, 3]) =  11.0
189     historl_G_best_iter[iter, 3] =  11.0
190  Begin iteration:
191
192  iter =  10
193        cord_individul_obj[indivial_i, :] = [ 0.  4.  8. 12.]
194        cord_individul_obj[indivial_i, :] = [ 1.  5. 48. 53.]
195        cord_individul_obj[indivial_i, :] = [ 2.  3.  8. 11.]
196        cord_individul_obj[indivial_i, :] = [ 3.  5.  8. 13.]
197        cord_individul_obj[indivial_i, :] = [ 4.  3. 60. 63.]
198        cord_individul_obj[indivial_i, :] = [ 5.  5. 24. 29.]
199        cord_individul_obj[indivial_i, :] = [ 6.  4. 36. 40.]
200        cord_individul_obj[indivial_i, :] = [ 7.  6. 12. 18.]
201        cord_individul_obj[indivial_i, :] = [ 8.  6. 48. 54.]
202        cord_individul_obj[indivial_i, :] = [ 9.  3. 50. 53.]
203
204     min(cord_individul_obj[:, 3]) =  11.0
205     historl_G_best_iter[iter, 3] =  11.0
206  Begin iteration:
207
208  iter =  11
209        cord_individul_obj[indivial_i, :] = [ 0.  4.  8. 12.]
210        cord_individul_obj[indivial_i, :] = [ 1.  5. 18. 23.]
211        cord_individul_obj[indivial_i, :] = [ 2.  3. 18. 21.]
212        cord_individul_obj[indivial_i, :] = [ 3.  5. 16. 21.]
213        cord_individul_obj[indivial_i, :] = [ 4.  3.  8. 11.]
214        cord_individul_obj[indivial_i, :] = [ 5.  5. 38. 43.]
215        cord_individul_obj[indivial_i, :] = [ 6.  4. 26. 30.]
216        cord_individul_obj[indivial_i, :] = [ 7.  4.  8. 12.]
217        cord_individul_obj[indivial_i, :] = [ 8.  6.  8. 14.]
218        cord_individul_obj[indivial_i, :] = [ 9.  3. 84. 87.]
219
220     min(cord_individul_obj[:, 3]) =  11.0
221     historl_G_best_iter[iter, 3] =  11.0
222  Begin iteration:
223
224  iter =  12
225        cord_individul_obj[indivial_i, :] = [ 0.  4.  8. 12.]
226        cord_individul_obj[indivial_i, :] = [ 1.  6. 36. 42.]
227        cord_individul_obj[indivial_i, :] = [ 2.  3. 16. 19.]
228        cord_individul_obj[indivial_i, :] = [ 3.  5.  8. 13.]
229        cord_individul_obj[indivial_i, :] = [ 4.  3.  8. 11.]
230        cord_individul_obj[indivial_i, :] = [ 5.  4. 34. 38.]
231        cord_individul_obj[indivial_i, :] = [ 6.  4.  8. 12.]
232        cord_individul_obj[indivial_i, :] = [ 7.  4.  8. 12.]
233        cord_individul_obj[indivial_i, :] = [ 8.  6.  8. 14.]
234        cord_individul_obj[indivial_i, :] = [ 9.  3.  8. 11.]
235
236     min(cord_individul_obj[:, 3]) =  11.0
237     historl_G_best_iter[iter, 3] =  11.0
238  Begin iteration:
239
240  iter =  13
241        cord_individul_obj[indivial_i, :] = [ 0.  4.  8. 12.]
242        cord_individul_obj[indivial_i, :] = [ 1.  3.  8. 11.]
243        cord_individul_obj[indivial_i, :] = [ 2.  3. 44. 47.]
244        cord_individul_obj[indivial_i, :] = [ 3.  5.  8. 13.]
245        cord_individul_obj[indivial_i, :] = [ 4.  3. 16. 19.]
246        cord_individul_obj[indivial_i, :] = [ 5.  5.  8. 13.]
247        cord_individul_obj[indivial_i, :] = [ 6.  3. 64. 67.]
```

```
248        cord_individul_obj[indivial_i, :] = [ 7.  4.  8. 12.]
249        cord_individul_obj[indivial_i, :] = [ 8.  3. 36. 39.]
250        cord_individul_obj[indivial_i, :] = [ 9.  3. 52. 55.]
251
252    min(cord_individul_obj[:, 3]) = 11.0
253    historl_G_best_iter[iter, 3] = 11.0
254  Begin iteration:
255
256  iter =  14
257        cord_individul_obj[indivial_i, :] = [ 0.  4. 32. 36.]
258        cord_individul_obj[indivial_i, :] = [ 1.  5. 36. 41.]
259        cord_individul_obj[indivial_i, :] = [ 2.  3.  8. 11.]
260        cord_individul_obj[indivial_i, :] = [ 3.  5. 16. 21.]
261        cord_individul_obj[indivial_i, :] = [ 4.  3.  8. 11.]
262        cord_individul_obj[indivial_i, :] = [ 5.  4. 38. 42.]
263        cord_individul_obj[indivial_i, :] = [ 6.  3.  8. 11.]
264        cord_individul_obj[indivial_i, :] = [ 7.  4.  8. 12.]
265        cord_individul_obj[indivial_i, :] = [ 8.  5. 18. 23.]
266        cord_individul_obj[indivial_i, :] = [ 9.  3. 20. 23.]
267
268    min(cord_individul_obj[:, 3]) = 11.0
269    historl_G_best_iter[iter, 3] = 11.0
270  Begin iteration:
271
272  iter =  15
273        cord_individul_obj[indivial_i, :] = [ 0.  3.  8. 11.]
274        cord_individul_obj[indivial_i, :] = [ 1.  6.  8. 14.]
275        cord_individul_obj[indivial_i, :] = [ 2.  3. 84. 87.]
276        cord_individul_obj[indivial_i, :] = [ 3.  5.  8. 13.]
277        cord_individul_obj[indivial_i, :] = [ 4.  3. 16. 19.]
278        cord_individul_obj[indivial_i, :] = [ 5.  3.  8. 11.]
279        cord_individul_obj[indivial_i, :] = [ 6.  4. 68. 72.]
280        cord_individul_obj[indivial_i, :] = [ 7.  4. 12. 16.]
281        cord_individul_obj[indivial_i, :] = [ 8.  6.  96. 102.]
282        cord_individul_obj[indivial_i, :] = [ 9.  3. 24. 27.]
283
284    min(cord_individul_obj[:, 3]) = 11.0
285    historl_G_best_iter[iter, 3] = 11.0
286  Begin iteration:
287
288  iter =  16
289        cord_individul_obj[indivial_i, :] = [ 0.  4. 32. 36.]
290        cord_individul_obj[indivial_i, :] = [ 1.  6. 18. 24.]
291        cord_individul_obj[indivial_i, :] = [ 2.  3. 32. 35.]
292        cord_individul_obj[indivial_i, :] = [ 3.  5. 32. 37.]
293        cord_individul_obj[indivial_i, :] = [ 4.  3. 32. 35.]
294        cord_individul_obj[indivial_i, :] = [ 5.  5. 38. 43.]
295        cord_individul_obj[indivial_i, :] = [ 6.  4. 62. 66.]
296        cord_individul_obj[indivial_i, :] = [ 7.  4. 18. 22.]
297        cord_individul_obj[indivial_i, :] = [ 8.  3.  8. 11.]
298        cord_individul_obj[indivial_i, :] = [ 9.  3. 48. 51.]
299
300    min(cord_individul_obj[:, 3]) = 11.0
301    historl_G_best_iter[iter, 3] = 11.0
302  Begin iteration:
303
304  iter =  17
305        cord_individul_obj[indivial_i, :] = [ 0.  3. 32. 35.]
306        cord_individul_obj[indivial_i, :] = [ 1.  4. 18. 22.]
307        cord_individul_obj[indivial_i, :] = [ 2.  3.  8. 11.]
308        cord_individul_obj[indivial_i, :] = [ 3.  4. 32. 36.]
309        cord_individul_obj[indivial_i, :] = [ 4.  3.  8. 11.]
310        cord_individul_obj[indivial_i, :] = [ 5.  3.  8. 11.]
311        cord_individul_obj[indivial_i, :] = [ 6.  3.  8. 11.]
312        cord_individul_obj[indivial_i, :] = [ 7.  6.  8. 14.]
313        cord_individul_obj[indivial_i, :] = [ 8.  5. 60. 65.]
314        cord_individul_obj[indivial_i, :] = [ 9.  3. 64. 67.]
315
316    min(cord_individul_obj[:, 3]) = 11.0
317    historl_G_best_iter[iter, 3] = 11.0
318  Begin iteration:
319
320  iter =  18
321        cord_individul_obj[indivial_i, :] = [ 0.  4. 32. 36.]
322        cord_individul_obj[indivial_i, :] = [ 1.  4. 18. 22.]
323        cord_individul_obj[indivial_i, :] = [ 2.  3. 38. 41.]
324        cord_individul_obj[indivial_i, :] = [ 3.  5. 32. 37.]
325        cord_individul_obj[indivial_i, :] = [ 4.  3. 44. 47.]
326        cord_individul_obj[indivial_i, :] = [ 5.  5. 32. 37.]
327        cord_individul_obj[indivial_i, :] = [ 6.  4. 48. 52.]
328        cord_individul_obj[indivial_i, :] = [ 7.  4. 32. 36.]
329        cord_individul_obj[indivial_i, :] = [ 8.  4. 26. 30.]
330        cord_individul_obj[indivial_i, :] = [ 9.  3.  8. 11.]
331
```

```
332     min(cord_individul_obj[:, 3]) =  11.0
333     historl_G_best_iter[iter, 3] =  11.0
334  Begin iteration:
335
336  iter =  19
337         cord_individul_obj[indivial_i, :] = [ 0.  3.  8. 11.]
338         cord_individul_obj[indivial_i, :] = [ 1.  6. 54. 60.]
339         cord_individul_obj[indivial_i, :] = [ 2.  3. 44. 47.]
340         cord_individul_obj[indivial_i, :] = [ 3.  5.  8. 13.]
341         cord_individul_obj[indivial_i, :] = [ 4.  3. 14. 17.]
342         cord_individul_obj[indivial_i, :] = [ 5.  5. 32. 37.]
343         cord_individul_obj[indivial_i, :] = [ 6.  3.  8. 11.]
344         cord_individul_obj[indivial_i, :] = [ 7.  4. 18. 22.]
345         cord_individul_obj[indivial_i, :] = [ 8.  6.  8. 14.]
346         cord_individul_obj[indivial_i, :] = [ 9.  3. 68. 71.]
347
348     min(cord_individul_obj[:, 3]) =  11.0
349     historl_G_best_iter[iter, 3] =  11.0
350  Begin iteration:
351
352  iter =  20
353         cord_individul_obj[indivial_i, :] = [ 0.  4. 32. 36.]
354         cord_individul_obj[indivial_i, :] = [ 1.  6.  8. 14.]
355         cord_individul_obj[indivial_i, :] = [ 2.  3. 38. 41.]
356         cord_individul_obj[indivial_i, :] = [ 3.  5. 32. 37.]
357         cord_individul_obj[indivial_i, :] = [ 4.  3. 32. 35.]
358         cord_individul_obj[indivial_i, :] = [ 5.  5. 52. 57.]
359         cord_individul_obj[indivial_i, :] = [ 6.  4. 38. 42.]
360         cord_individul_obj[indivial_i, :] = [ 7.  4. 18. 22.]
361         cord_individul_obj[indivial_i, :] = [ 8.  5. 18. 23.]
362         cord_individul_obj[indivial_i, :] = [ 9.  3.  8. 11.]
363
364     min(cord_individul_obj[:, 3]) =  11.0
365     historl_G_best_iter[iter, 3] =  11.0
366  Iteration calculate over
367
368
369
370
371  All item are in Bin and:
372     Bin area =  1080
373     Real_area =  90.0
374     Proportion_of_area =  0.08333333333333333
375        BEST_CHROM =
376           berth: [14.5 26.  20.   2.5  6.5 10. ]
377           time:  [0. 0. 0. 0. 0. 0.]
378           num_QC:  [2. 2. 4. 2. 3. 3.]
379     Objective function values and some other indicators:
380        Obj0 = 3.00          Obj1 = 8.00          Obj0 + Obj1 = 11.00
381        Total movement of crane: 8.00
382        Total waiting time in berth position: 0.00
383        Total index of q during berthing: 577.00
384     Specific arrangement for each vessel:
```

385   V_id: 0   li: 5.0   xi: 14.5   bow of i: 12.0   tail of i: 17.0   gama_i0: 0.0   gama_i1: 1.0   gama_i1 + 1: 2.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0   demand_i: 80.0   work load_i: 80.0   work load gap_i: 0

386   V_id: 1   li: 6.0   xi: 26.0   bow of i: 23.0   tail of i: 29.0   gama_i0: 0.0   gama_i1: 2.0   gama_i1 + 1: 3.0   gama_i1 - gama_i0: 2.0   duration_time_i: 3.0   demand_i: 120.0   work load_i: 120.0   work load gap_i: 0

387   V_id: 2   li: 6.0   xi: 20.0   bow of i: 17.0   tail of i: 23.0   gama_i0: 0.0   gama_i1: 3.0   gama_i1 + 1: 4.0   gama_i1 - gama_i0: 3.0   duration_time_i: 4.0   demand_i: 260.0   work load_i: 260.0   work load gap_i: 0

388   V_id: 3   li: 5.0   xi: 2.5   bow of i: 0.0   tail of i: 5.0   gama_i0: 0.0   gama_i1: 1.0   gama_i1 + 1: 2.0   gama_i1 - gama_i0: 1.0   duration_time_i: 2.0   demand_i: 80.0   work load_i: 80.0   work load gap_i: 0

389   V_id: 4   li: 3.0   xi: 6.5   bow of i: 5.0   tail of i: 8.0   gama_i0: 0.0   gama_i1: 3.0   gama_i1 + 1: 4.0   gama_i1 - gama_i0: 3.0   duration_time_i: 4.0   demand_i: 200.0   work load_i: 200.0   work load gap_i: 0

390   V_id: 5   li: 4.0   xi: 10.0   bow of i: 8.0   tail of i: 12.0   gama_i0: 0.0   gama_i1: 3.0   gama_i1 + 1: 4.0   gama_i1 - gama_i0: 3.0   duration_time_i: 4.0   demand_i: 220.0   work load_i: 220.0   work load gap_i: 0

```
391
392  Algorithm finished and the total CPU time: 74 s
393  End
394
```