```
 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=11724
 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        maxIter_num =  20
24        W_inertia =  1.0
25        oder_type_num =  10
26        c1 =  2.0
27        c2 =  1.5
28        r1 =  0.08154448744576492
29        r2 =  0.08154448744576492
30  Begin iteration:
31
32  iter =  0
33        cord_individul_obj[indivial_i, :] = [ 0.   4. 148. 152.]
34        cord_individul_obj[indivial_i, :] = [ 1.   4. 48. 52.]
35        cord_individul_obj[indivial_i, :] = [ 2.   6. 18. 24.]
36        cord_individul_obj[indivial_i, :] = [ 3.   3. 170. 173.]
37        cord_individul_obj[indivial_i, :] = [ 4.   4. 64. 68.]
38        cord_individul_obj[indivial_i, :] = [ 5.   4. 50. 54.]
39        cord_individul_obj[indivial_i, :] = [ 6.   5. 116. 121.]
40        cord_individul_obj[indivial_i, :] = [ 7.   5. 102. 107.]
41        cord_individul_obj[indivial_i, :] = [ 8.   4. 94. 98.]
42        cord_individul_obj[indivial_i, :] = [ 9.   6. 16. 22.]
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. 50. 54.]
50        cord_individul_obj[indivial_i, :] = [ 1.   6. 50. 56.]
51        cord_individul_obj[indivial_i, :] = [ 2.   5. 18. 23.]
52        cord_individul_obj[indivial_i, :] = [ 3.   6. 16. 22.]
53        cord_individul_obj[indivial_i, :] = [ 4.   5. 40. 45.]
54        cord_individul_obj[indivial_i, :] = [ 5.   6. 34. 40.]
55        cord_individul_obj[indivial_i, :] = [ 6.   4. 38. 42.]
56        cord_individul_obj[indivial_i, :] = [ 7.   5. 44. 49.]
57        cord_individul_obj[indivial_i, :] = [ 8.   5. 42. 47.]
58        cord_individul_obj[indivial_i, :] = [ 9.   6. 20. 26.]
59
60      min(cord_individul_obj[:, 3]) = 22.0
61      historl_G_best_iter[iter, 3] = 22.0
62  Begin iteration:
63
64  iter =  2
65        cord_individul_obj[indivial_i, :] = [ 0.   4. 78. 82.]
66        cord_individul_obj[indivial_i, :] = [ 1.   6. 16. 22.]
67        cord_individul_obj[indivial_i, :] = [ 2.   6. 20. 26.]
68        cord_individul_obj[indivial_i, :] = [ 3.   5. 20. 25.]
69        cord_individul_obj[indivial_i, :] = [ 4.   6. 48. 54.]
70        cord_individul_obj[indivial_i, :] = [ 5.   6. 28. 34.]
71        cord_individul_obj[indivial_i, :] = [ 6.   3. 38. 41.]
72        cord_individul_obj[indivial_i, :] = [ 7.   5. 28. 33.]
73        cord_individul_obj[indivial_i, :] = [ 8.   5. 28. 33.]
74        cord_individul_obj[indivial_i, :] = [ 9.   6. 16. 22.]
75
76      min(cord_individul_obj[:, 3]) = 22.0
77      historl_G_best_iter[iter, 3] = 22.0
78  Begin iteration:
79
```

```
 80   iter =  3
 81        cord_individul_obj[indivial_i, :] = [ 0.  6. 16. 22.]
 82        cord_individul_obj[indivial_i, :] = [ 1.  5. 20. 25.]
 83        cord_individul_obj[indivial_i, :] = [ 2.  4. 88. 92.]
 84        cord_individul_obj[indivial_i, :] = [ 3.  5. 28. 33.]
 85        cord_individul_obj[indivial_i, :] = [ 4.  6. 38. 44.]
 86        cord_individul_obj[indivial_i, :] = [ 5.  5. 28. 33.]
 87        cord_individul_obj[indivial_i, :] = [ 6.  6. 28. 34.]
 88        cord_individul_obj[indivial_i, :] = [ 7.  6. 20. 26.]
 89        cord_individul_obj[indivial_i, :] = [ 8.  6. 20. 26.]
 90        cord_individul_obj[indivial_i, :] = [ 9.  6. 20. 26.]
 91
 92     min(cord_individul_obj[:, 3]) = 22.0
 93     historl_G_best_iter[iter, 3] = 22.0
 94   Begin iteration:
 95
 96   iter =  4
 97        cord_individul_obj[indivial_i, :] = [ 0.  3. 38. 41.]
 98        cord_individul_obj[indivial_i, :] = [ 1.  6. 26. 32.]
 99        cord_individul_obj[indivial_i, :] = [ 2.  6. 16. 22.]
100        cord_individul_obj[indivial_i, :] = [ 3.  5. 20. 25.]
101        cord_individul_obj[indivial_i, :] = [ 4.  6. 44. 50.]
102        cord_individul_obj[indivial_i, :] = [ 5.  5. 38. 43.]
103        cord_individul_obj[indivial_i, :] = [ 6.  6. 20. 26.]
104        cord_individul_obj[indivial_i, :] = [ 7.  6. 40. 46.]
105        cord_individul_obj[indivial_i, :] = [ 8.  5. 20. 25.]
106        cord_individul_obj[indivial_i, :] = [ 9.  6. 32. 38.]
107
108     min(cord_individul_obj[:, 3]) = 22.0
109     historl_G_best_iter[iter, 3] = 22.0
110   Begin iteration:
111
112   iter =  5
113        cord_individul_obj[indivial_i, :] = [ 0.  5. 28. 33.]
114        cord_individul_obj[indivial_i, :] = [ 1.  5. 26. 31.]
115        cord_individul_obj[indivial_i, :] = [ 2.  6. 54. 60.]
116        cord_individul_obj[indivial_i, :] = [ 3.  5. 28. 33.]
117        cord_individul_obj[indivial_i, :] = [ 4.  6. 16. 22.]
118        cord_individul_obj[indivial_i, :] = [ 5.  6. 46. 52.]
119        cord_individul_obj[indivial_i, :] = [ 6.  6. 40. 46.]
120        cord_individul_obj[indivial_i, :] = [ 7.  5. 28. 33.]
121        cord_individul_obj[indivial_i, :] = [ 8.  6. 40. 46.]
122        cord_individul_obj[indivial_i, :] = [ 9.  6. 20. 26.]
123
124     min(cord_individul_obj[:, 3]) = 22.0
125     historl_G_best_iter[iter, 3] = 22.0
126   Begin iteration:
127
128   iter =  6
129        cord_individul_obj[indivial_i, :] = [ 0.  6. 40. 46.]
130        cord_individul_obj[indivial_i, :] = [ 1.  6. 26. 32.]
131        cord_individul_obj[indivial_i, :] = [ 2.  6. 16. 22.]
132        cord_individul_obj[indivial_i, :] = [ 3.  5. 16. 21.]
133        cord_individul_obj[indivial_i, :] = [ 4.  6. 38. 44.]
134        cord_individul_obj[indivial_i, :] = [ 5.  5. 16. 21.]
135        cord_individul_obj[indivial_i, :] = [ 6.  6. 64. 70.]
136        cord_individul_obj[indivial_i, :] = [ 7.  5. 22. 27.]
137        cord_individul_obj[indivial_i, :] = [ 8.  5. 16. 21.]
138        cord_individul_obj[indivial_i, :] = [ 9.  6. 16. 22.]
139
140     min(cord_individul_obj[:, 3]) = 21.0
141     historl_G_best_iter[iter, 3] = 21.0
142   Begin iteration:
143
144   iter =  7
145        cord_individul_obj[indivial_i, :] = [ 0.  5. 60. 65.]
146        cord_individul_obj[indivial_i, :] = [ 1.  5. 38. 43.]
147        cord_individul_obj[indivial_i, :] = [ 2.  4. 38. 42.]
148        cord_individul_obj[indivial_i, :] = [ 3.  6. 16. 22.]
149        cord_individul_obj[indivial_i, :] = [ 4.  6. 28. 34.]
150        cord_individul_obj[indivial_i, :] = [ 5.  5. 20. 25.]
151        cord_individul_obj[indivial_i, :] = [ 6.  5. 16. 21.]
152        cord_individul_obj[indivial_i, :] = [ 7.  5. 22. 27.]
153        cord_individul_obj[indivial_i, :] = [ 8.  5. 20. 25.]
154        cord_individul_obj[indivial_i, :] = [ 9.  6. 20. 26.]
155
156     min(cord_individul_obj[:, 3]) = 21.0
157     historl_G_best_iter[iter, 3] = 21.0
158   Begin iteration:
159
160   iter =  8
161        cord_individul_obj[indivial_i, :] = [ 0.  5. 16. 21.]
162        cord_individul_obj[indivial_i, :] = [ 1.  6. 20. 26.]
163        cord_individul_obj[indivial_i, :] = [ 2.  6. 64. 70.]
```

```
164        cord_individul_obj[indivial_i, :] = [ 3.  6. 16. 22.]
165        cord_individul_obj[indivial_i, :] = [ 4.  4. 66. 70.]
166        cord_individul_obj[indivial_i, :] = [ 5.  6. 16. 22.]
167        cord_individul_obj[indivial_i, :] = [ 6.  4. 42. 46.]
168        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
169        cord_individul_obj[indivial_i, :] = [ 8.  6. 16. 22.]
170        cord_individul_obj[indivial_i, :] = [ 9.  5. 22. 27.]
171
172     min(cord_individul_obj[:, 3]) =  21.0
173     historl_G_best_iter[iter, 3] =  21.0
174  Begin iteration:
175
176  iter =  9
177        cord_individul_obj[indivial_i, :] = [ 0.  6. 16. 22.]
178        cord_individul_obj[indivial_i, :] = [ 1.  6. 20. 26.]
179        cord_individul_obj[indivial_i, :] = [ 2.  5. 16. 21.]
180        cord_individul_obj[indivial_i, :] = [ 3.  6. 16. 22.]
181        cord_individul_obj[indivial_i, :] = [ 4.  4. 84. 88.]
182        cord_individul_obj[indivial_i, :] = [ 5.  6. 16. 22.]
183        cord_individul_obj[indivial_i, :] = [ 6.  4. 42. 46.]
184        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
185        cord_individul_obj[indivial_i, :] = [ 8.  6. 16. 22.]
186        cord_individul_obj[indivial_i, :] = [ 9.  5. 20. 25.]
187
188     min(cord_individul_obj[:, 3]) =  21.0
189     historl_G_best_iter[iter, 3] =  21.0
190  Begin iteration:
191
192  iter =  10
193        cord_individul_obj[indivial_i, :] = [ 0.  6. 34. 40.]
194        cord_individul_obj[indivial_i, :] = [ 1.  6. 20. 26.]
195        cord_individul_obj[indivial_i, :] = [ 2.  6. 64. 70.]
196        cord_individul_obj[indivial_i, :] = [ 3.  6. 16. 22.]
197        cord_individul_obj[indivial_i, :] = [ 4.  5. 16. 21.]
198        cord_individul_obj[indivial_i, :] = [ 5.  6. 16. 22.]
199        cord_individul_obj[indivial_i, :] = [ 6.  5. 22. 27.]
200        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
201        cord_individul_obj[indivial_i, :] = [ 8.  6. 16. 22.]
202        cord_individul_obj[indivial_i, :] = [ 9.  5. 22. 27.]
203
204     min(cord_individul_obj[:, 3]) =  21.0
205     historl_G_best_iter[iter, 3] =  21.0
206  Begin iteration:
207
208  iter =  11
209        cord_individul_obj[indivial_i, :] = [ 0.  6. 16. 22.]
210        cord_individul_obj[indivial_i, :] = [ 1.  6. 20. 26.]
211        cord_individul_obj[indivial_i, :] = [ 2.  5. 16. 21.]
212        cord_individul_obj[indivial_i, :] = [ 3.  6. 16. 22.]
213        cord_individul_obj[indivial_i, :] = [ 4.  4. 66. 70.]
214        cord_individul_obj[indivial_i, :] = [ 5.  6. 16. 22.]
215        cord_individul_obj[indivial_i, :] = [ 6.  4. 56. 60.]
216        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
217        cord_individul_obj[indivial_i, :] = [ 8.  6. 16. 22.]
218        cord_individul_obj[indivial_i, :] = [ 9.  5. 20. 25.]
219
220     min(cord_individul_obj[:, 3]) =  21.0
221     historl_G_best_iter[iter, 3] =  21.0
222  Begin iteration:
223
224  iter =  12
225        cord_individul_obj[indivial_i, :] = [ 0.  6. 28. 34.]
226        cord_individul_obj[indivial_i, :] = [ 1.  6. 20. 26.]
227        cord_individul_obj[indivial_i, :] = [ 2.  6. 16. 22.]
228        cord_individul_obj[indivial_i, :] = [ 3.  6. 16. 22.]
229        cord_individul_obj[indivial_i, :] = [ 4.  5. 16. 21.]
230        cord_individul_obj[indivial_i, :] = [ 5.  6. 16. 22.]
231        cord_individul_obj[indivial_i, :] = [ 6.  4. 42. 46.]
232        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
233        cord_individul_obj[indivial_i, :] = [ 8.  6. 16. 22.]
234        cord_individul_obj[indivial_i, :] = [ 9.  5. 20. 25.]
235
236     min(cord_individul_obj[:, 3]) =  21.0
237     historl_G_best_iter[iter, 3] =  21.0
238  Begin iteration:
239
240  iter =  13
241        cord_individul_obj[indivial_i, :] = [ 0.  6. 44. 50.]
242        cord_individul_obj[indivial_i, :] = [ 1.  6. 20. 26.]
243        cord_individul_obj[indivial_i, :] = [ 2.  6. 40. 46.]
244        cord_individul_obj[indivial_i, :] = [ 3.  6. 16. 22.]
245        cord_individul_obj[indivial_i, :] = [ 4.  4. 66. 70.]
246        cord_individul_obj[indivial_i, :] = [ 5.  6. 16. 22.]
247        cord_individul_obj[indivial_i, :] = [ 6.  5. 16. 21.]
```

```
248        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
249        cord_individul_obj[indivial_i, :] = [ 8.  6. 16. 22.]
250        cord_individul_obj[indivial_i, :] = [ 9.  5. 20. 25.]
251
252    min(cord_individul_obj[:, 3]) = 21.0
253    historl_G_best_iter[iter, 3] = 21.0
254  Begin iteration:
255
256  iter =  14
257        cord_individul_obj[indivial_i, :] = [  0.   4. 114. 118.]
258        cord_individul_obj[indivial_i, :] = [ 1.  5. 20. 25.]
259        cord_individul_obj[indivial_i, :] = [ 2.  6. 28. 34.]
260        cord_individul_obj[indivial_i, :] = [ 3.  6. 20. 26.]
261        cord_individul_obj[indivial_i, :] = [ 4.  5. 16. 21.]
262        cord_individul_obj[indivial_i, :] = [ 5.  5. 52. 57.]
263        cord_individul_obj[indivial_i, :] = [ 6.  4. 56. 60.]
264        cord_individul_obj[indivial_i, :] = [ 7.  6. 20. 26.]
265        cord_individul_obj[indivial_i, :] = [ 8.  6. 40. 46.]
266        cord_individul_obj[indivial_i, :] = [ 9.  5. 20. 25.]
267
268    min(cord_individul_obj[:, 3]) = 21.0
269    historl_G_best_iter[iter, 3] = 21.0
270  Begin iteration:
271
272  iter =  15
273        cord_individul_obj[indivial_i, :] = [ 0.  5. 16. 21.]
274        cord_individul_obj[indivial_i, :] = [ 1.  6. 20. 26.]
275        cord_individul_obj[indivial_i, :] = [ 2.  6. 16. 22.]
276        cord_individul_obj[indivial_i, :] = [ 3.  6. 16. 22.]
277        cord_individul_obj[indivial_i, :] = [ 4.  4. 66. 70.]
278        cord_individul_obj[indivial_i, :] = [ 5.  6. 16. 22.]
279        cord_individul_obj[indivial_i, :] = [ 6.  4. 42. 46.]
280        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
281        cord_individul_obj[indivial_i, :] = [ 8.  6. 16. 22.]
282        cord_individul_obj[indivial_i, :] = [ 9.  5. 20. 25.]
283
284    min(cord_individul_obj[:, 3]) = 21.0
285    historl_G_best_iter[iter, 3] = 21.0
286  Begin iteration:
287
288  iter =  16
289        cord_individul_obj[indivial_i, :] = [ 0.  6. 56. 62.]
290        cord_individul_obj[indivial_i, :] = [ 1.  6. 20. 26.]
291        cord_individul_obj[indivial_i, :] = [ 2.  6. 16. 22.]
292        cord_individul_obj[indivial_i, :] = [ 3.  6. 16. 22.]
293        cord_individul_obj[indivial_i, :] = [ 4.  5. 16. 21.]
294        cord_individul_obj[indivial_i, :] = [ 5.  6. 16. 22.]
295        cord_individul_obj[indivial_i, :] = [ 6.  4. 66. 70.]
296        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
297        cord_individul_obj[indivial_i, :] = [ 8.  6. 16. 22.]
298        cord_individul_obj[indivial_i, :] = [ 9.  5. 22. 27.]
299
300    min(cord_individul_obj[:, 3]) = 21.0
301    historl_G_best_iter[iter, 3] = 21.0
302  Begin iteration:
303
304  iter =  17
305        cord_individul_obj[indivial_i, :] = [ 0.  6. 16. 22.]
306        cord_individul_obj[indivial_i, :] = [ 1.  6. 20. 26.]
307        cord_individul_obj[indivial_i, :] = [ 2.  6. 64. 70.]
308        cord_individul_obj[indivial_i, :] = [ 3.  6. 16. 22.]
309        cord_individul_obj[indivial_i, :] = [ 4.  4. 66. 70.]
310        cord_individul_obj[indivial_i, :] = [ 5.  6. 16. 22.]
311        cord_individul_obj[indivial_i, :] = [ 6.  5. 16. 21.]
312        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
313        cord_individul_obj[indivial_i, :] = [ 8.  5. 22. 27.]
314        cord_individul_obj[indivial_i, :] = [ 9.  5. 22. 27.]
315
316    min(cord_individul_obj[:, 3]) = 21.0
317    historl_G_best_iter[iter, 3] = 21.0
318  Begin iteration:
319
320  iter =  18
321        cord_individul_obj[indivial_i, :] = [ 0.  3. 68. 71.]
322        cord_individul_obj[indivial_i, :] = [ 1.  6. 20. 26.]
323        cord_individul_obj[indivial_i, :] = [ 2.  5. 16. 21.]
324        cord_individul_obj[indivial_i, :] = [ 3.  6. 20. 26.]
325        cord_individul_obj[indivial_i, :] = [ 4.  5. 44. 49.]
326        cord_individul_obj[indivial_i, :] = [ 5.  6. 20. 26.]
327        cord_individul_obj[indivial_i, :] = [ 6.  5. 22. 27.]
328        cord_individul_obj[indivial_i, :] = [ 7.  6. 20. 26.]
329        cord_individul_obj[indivial_i, :] = [ 8.  6. 20. 26.]
330        cord_individul_obj[indivial_i, :] = [ 9.  5. 20. 25.]
331
```

```
332     min(cord_individul_obj[:, 3]) = 21.0
333     historl_G_best_iter[iter, 3] = 21.0
334  Begin iteration:
335
336  iter = 19
337        cord_individul_obj[indivial_i, :] = [ 0.  5. 16. 21.]
338        cord_individul_obj[indivial_i, :] = [ 1.  5. 50. 55.]
339        cord_individul_obj[indivial_i, :] = [ 2.  6. 16. 22.]
340        cord_individul_obj[indivial_i, :] = [ 3.  5. 40. 45.]
341        cord_individul_obj[indivial_i, :] = [ 4.  4. 46. 50.]
342        cord_individul_obj[indivial_i, :] = [ 5.  5. 76. 81.]
343        cord_individul_obj[indivial_i, :] = [ 6.  5. 22. 27.]
344        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
345        cord_individul_obj[indivial_i, :] = [ 8.  6. 16. 22.]
346        cord_individul_obj[indivial_i, :] = [ 9.  5. 20. 25.]
347
348     min(cord_individul_obj[:, 3]) = 21.0
349     historl_G_best_iter[iter, 3] = 21.0
350  Begin iteration:
351
352  iter = 20
353        cord_individul_obj[indivial_i, :] = [ 0.  6. 34. 40.]
354        cord_individul_obj[indivial_i, :] = [ 1.  5. 20. 25.]
355        cord_individul_obj[indivial_i, :] = [ 2.  4. 62. 66.]
356        cord_individul_obj[indivial_i, :] = [ 3.  6. 20. 26.]
357        cord_individul_obj[indivial_i, :] = [ 4.  5. 28. 33.]
358        cord_individul_obj[indivial_i, :] = [ 5.  5. 16. 21.]
359        cord_individul_obj[indivial_i, :] = [ 6.  4. 78. 82.]
360        cord_individul_obj[indivial_i, :] = [ 7.  6. 16. 22.]
361        cord_individul_obj[indivial_i, :] = [ 8.  6. 20. 26.]
362        cord_individul_obj[indivial_i, :] = [ 9.  5. 28. 33.]
363
364     min(cord_individul_obj[:, 3]) = 21.0
365     historl_G_best_iter[iter, 3] = 21.0
366  Iteration calculate over
367
368
369
370
371  All item are in Bin and:
372     Bin area = 1080
373     Real_area = 107.0
374     Proportion_of_area = 0.09907407407407408
375        BEST_CHROM =
376           berth: [ 8.5 22.  3.  16.5 12.5 27. ]
377           time:  [0. 0. 0. 0. 0. 0.]
378           num_QC: [3. 2. 3. 2. 3. 2.]
379     Objective function values and some other indicators:
380        Obj0 = 5.00           Obj1 = 16.00           Obj0 + Obj1 = 21.00
381        Total movement of crane: 16.00
382        Total waiting time in berth position: 0.00
383        Total index of q during berthing: 570.00
384     Specific arrangement for each vessel:
```

385	V_id: 0	li: 5.0	xi: 8.5	bow of i: 6.0	tail of i: 11.0	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: 22.0	bow of i: 19.0	tail of i: 25.0	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: 3.0	bow of i: 0.0	tail of i: 6.0	gama_i0: 0.0	gama_i1: 4.0
		gama_i1 + 1: 5.0	gama_i1 - gama_i0: 4.0	duration_time_i: 5.0	demand_i: 260.0	work load_i: 260.0	work load gap_i: 0

388	V_id: 3	li: 5.0	xi: 16.5	bow of i: 14.0	tail of i: 19.0	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: 12.5	bow of i: 11.0	tail of i: 14.0	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: 27.0	bow of i: 25.0	tail of i: 29.0	gama_i0: 0.0	gama_i1: 5.0
		gama_i1 + 1: 6.0	gama_i1 - gama_i0: 5.0	duration_time_i: 6.0	demand_i: 220.0	work load_i: 220.0	work load gap_i: 0

```
391
392  Algorithm finished and the total CPU time: 73 s
393  End
394
```