```
 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=17972
 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          maxIter_num =  10
23          W_inertia =  1.5
24          oder_type_num =  20
25          c1 =  2.0
26          c2 =  1.0
27          r1 =  0.2659065789184468
28          r2 =  0.2659065789184468
29  Begin iteration:
30
31  iter =  0
32          cord_individul_obj[indivial_i, :] =  [ 0.  4. 50. 54.]
33          cord_individul_obj[indivial_i, :] =  [ 1.  6. 38. 44.]
34          cord_individul_obj[indivial_i, :] =  [ 2.  5. 48. 53.]
35          cord_individul_obj[indivial_i, :] =  [ 3.  4. 88. 92.]
36          cord_individul_obj[indivial_i, :] =  [ 4.  5. 78. 83.]
37          cord_individul_obj[indivial_i, :] =  [ 5.  4. 106. 110.]
38          cord_individul_obj[indivial_i, :] =  [ 6.  5. 42. 47.]
39          cord_individul_obj[indivial_i, :] =  [ 7.  6.  8. 14.]
40          cord_individul_obj[indivial_i, :] =  [ 8.  5. 36. 41.]
41          cord_individul_obj[indivial_i, :] =  [ 9.  6.  8. 14.]
42          cord_individul_obj[indivial_i, :] =  [10.  6.  8. 14.]
43          cord_individul_obj[indivial_i, :] =  [11.  6. 34. 40.]
44          cord_individul_obj[indivial_i, :] =  [12.  6. 18. 24.]
45          cord_individul_obj[indivial_i, :] =  [13.  6.  8. 14.]
46          cord_individul_obj[indivial_i, :] =  [14.  4. 62. 66.]
47          cord_individul_obj[indivial_i, :] =  [15.  5. 22. 27.]
48          cord_individul_obj[indivial_i, :] =  [16.  6. 42. 48.]
49          cord_individul_obj[indivial_i, :] =  [17.  5. 58. 63.]
50          cord_individul_obj[indivial_i, :] =  [18.  4. 28. 32.]
51          cord_individul_obj[indivial_i, :] =  [19.  6. 80. 86.]
52
53      min(cord_individul_obj[:, 3]) =  14.0
54      historl_G_best_iter[iter, 3] =  14.0
55  Begin iteration:
56
57  iter =  1
58          cord_individul_obj[indivial_i, :] =  [ 0.  4. 52. 56.]
59          cord_individul_obj[indivial_i, :] =  [ 1.  6. 52. 58.]
60          cord_individul_obj[indivial_i, :] =  [ 2.  5. 72. 77.]
61          cord_individul_obj[indivial_i, :] =  [ 3.  5. 58. 63.]
62          cord_individul_obj[indivial_i, :] =  [ 4.  5. 62. 67.]
63          cord_individul_obj[indivial_i, :] =  [ 5.  6.  8. 14.]
64          cord_individul_obj[indivial_i, :] =  [ 6.  5. 108. 113.]
65          cord_individul_obj[indivial_i, :] =  [ 7.  6. 36. 42.]
66          cord_individul_obj[indivial_i, :] =  [ 8.  5. 80. 85.]
67          cord_individul_obj[indivial_i, :] =  [ 9.  5. 22. 27.]
68          cord_individul_obj[indivial_i, :] =  [10.  5. 24. 29.]
69          cord_individul_obj[indivial_i, :] =  [11.  6. 28. 34.]
70          cord_individul_obj[indivial_i, :] =  [12.  5. 56. 61.]
71          cord_individul_obj[indivial_i, :] =  [13.  6. 64. 70.]
72          cord_individul_obj[indivial_i, :] =  [14.  5. 36. 41.]
73          cord_individul_obj[indivial_i, :] =  [15.  6. 38. 44.]
74          cord_individul_obj[indivial_i, :] =  [16.  4. 42. 46.]
75          cord_individul_obj[indivial_i, :] =  [17.  4. 12. 16.]
76          cord_individul_obj[indivial_i, :] =  [18.  6. 84. 90.]
77          cord_individul_obj[indivial_i, :] =  [19.  4. 54. 58.]
78
79      min(cord_individul_obj[:, 3]) =  14.0
```

```
80    historl_G_best_iter[iter, 3] = 14.0
81   Begin iteration:
82
83   iter = 2
84        cord_individul_obj[indivial_i, :] = [ 0.  4. 30. 34.]
85        cord_individul_obj[indivial_i, :] = [ 1.  6. 44. 50.]
86        cord_individul_obj[indivial_i, :] = [ 2.  6. 44. 50.]
87        cord_individul_obj[indivial_i, :] = [ 3.  5. 18. 23.]
88        cord_individul_obj[indivial_i, :] = [ 4.  5. 18. 23.]
89        cord_individul_obj[indivial_i, :] = [ 5.  4. 64. 68.]
90        cord_individul_obj[indivial_i, :] = [ 6.  6.  8. 14.]
91        cord_individul_obj[indivial_i, :] = [ 7.  6. 66. 72.]
92        cord_individul_obj[indivial_i, :] = [ 8.  5. 84. 89.]
93        cord_individul_obj[indivial_i, :] = [ 9.  5. 32. 37.]
94        cord_individul_obj[indivial_i, :] = [10.  4. 12. 16.]
95        cord_individul_obj[indivial_i, :] = [11.  6. 28. 34.]
96        cord_individul_obj[indivial_i, :] = [12.  6. 12. 18.]
97        cord_individul_obj[indivial_i, :] = [13.  6.  8. 14.]
98        cord_individul_obj[indivial_i, :] = [14.  6. 48. 54.]
99        cord_individul_obj[indivial_i, :] = [ 15.   4. 106. 110.]
100       cord_individul_obj[indivial_i, :] = [16.  4. 66. 70.]
101       cord_individul_obj[indivial_i, :] = [17. 4. 12. 16.]
102       cord_individul_obj[indivial_i, :] = [18. 4. 92. 96.]
103       cord_individul_obj[indivial_i, :] = [19. 4. 32. 36.]
104
105      min(cord_individul_obj[:, 3]) = 14.0
106      historl_G_best_iter[iter, 3] = 14.0
107  Begin iteration:
108
109  iter = 3
110       cord_individul_obj[indivial_i, :] = [ 0.  4. 50. 54.]
111       cord_individul_obj[indivial_i, :] = [ 1.  6.  8. 14.]
112       cord_individul_obj[indivial_i, :] = [ 2.  6. 16. 22.]
113       cord_individul_obj[indivial_i, :] = [ 3.  4. 18. 22.]
114       cord_individul_obj[indivial_i, :] = [ 4.  5. 48. 53.]
115       cord_individul_obj[indivial_i, :] = [ 5.   3. 114. 117.]
116       cord_individul_obj[indivial_i, :] = [ 6.  6. 42. 48.]
117       cord_individul_obj[indivial_i, :] = [ 7.  6. 20. 26.]
118       cord_individul_obj[indivial_i, :] = [ 8.  5. 62. 67.]
119       cord_individul_obj[indivial_i, :] = [ 9.  5. 38. 43.]
120       cord_individul_obj[indivial_i, :] = [10.  5. 18. 23.]
121       cord_individul_obj[indivial_i, :] = [11.  6.  8. 14.]
122       cord_individul_obj[indivial_i, :] = [12.  5. 60. 65.]
123       cord_individul_obj[indivial_i, :] = [13.  6. 20. 26.]
124       cord_individul_obj[indivial_i, :] = [14.  6. 36. 42.]
125       cord_individul_obj[indivial_i, :] = [15.  6.  8. 14.]
126       cord_individul_obj[indivial_i, :] = [16.  4. 42. 46.]
127       cord_individul_obj[indivial_i, :] = [17.  5. 66. 71.]
128       cord_individul_obj[indivial_i, :] = [18.  6. 54. 60.]
129       cord_individul_obj[indivial_i, :] = [19.  4. 56. 60.]
130
131      min(cord_individul_obj[:, 3]) = 14.0
132      historl_G_best_iter[iter, 3] = 14.0
133  Begin iteration:
134
135  iter = 4
136       cord_individul_obj[indivial_i, :] = [ 0.  4. 58. 62.]
137       cord_individul_obj[indivial_i, :] = [ 1.  6. 50. 56.]
138       cord_individul_obj[indivial_i, :] = [ 2.   4. 130. 134.]
139       cord_individul_obj[indivial_i, :] = [ 3.  6. 72. 78.]
140       cord_individul_obj[indivial_i, :] = [ 4.  4. 34. 38.]
141       cord_individul_obj[indivial_i, :] = [ 5.  6.  8. 14.]
142       cord_individul_obj[indivial_i, :] = [ 6.  6. 70. 76.]
143       cord_individul_obj[indivial_i, :] = [ 7.  6. 72. 78.]
144       cord_individul_obj[indivial_i, :] = [ 8.   6. 106. 112.]
145       cord_individul_obj[indivial_i, :] = [ 9.  5. 58. 63.]
146       cord_individul_obj[indivial_i, :] = [10.  5. 28. 33.]
147       cord_individul_obj[indivial_i, :] = [11.  6. 84. 90.]
148       cord_individul_obj[indivial_i, :] = [12.  5. 32. 37.]
149       cord_individul_obj[indivial_i, :] = [13.  6. 44. 50.]
150       cord_individul_obj[indivial_i, :] = [14.  6. 70. 76.]
151       cord_individul_obj[indivial_i, :] = [15.  6. 76. 82.]
152       cord_individul_obj[indivial_i, :] = [16.  4. 38. 42.]
153       cord_individul_obj[indivial_i, :] = [17.  4. 84. 88.]
154       cord_individul_obj[indivial_i, :] = [18.  4. 50. 54.]
155       cord_individul_obj[indivial_i, :] = [19.  4. 44. 48.]
156
157      min(cord_individul_obj[:, 3]) = 14.0
158      historl_G_best_iter[iter, 3] = 14.0
159  Begin iteration:
160
161  iter = 5
162       cord_individul_obj[indivial_i, :] = [ 0.  4. 48. 52.]
163       cord_individul_obj[indivial_i, :] = [ 1.  6. 44. 50.]
```

```
164        cord_individul_obj[indivial_i, :] = [ 2.   6.   8. 14.]
165        cord_individul_obj[indivial_i, :] = [ 3.   6. 78. 84.]
166        cord_individul_obj[indivial_i, :] = [ 4.   5. 28. 33.]
167        cord_individul_obj[indivial_i, :] = [ 5.   6. 126. 132.]
168        cord_individul_obj[indivial_i, :] = [ 6.   6. 70. 76.]
169        cord_individul_obj[indivial_i, :] = [ 7.   6. 68. 74.]
170        cord_individul_obj[indivial_i, :] = [ 8.   6. 110. 116.]
171        cord_individul_obj[indivial_i, :] = [ 9.   5. 62. 67.]
172        cord_individul_obj[indivial_i, :] = [10.   4. 28. 32.]
173        cord_individul_obj[indivial_i, :] = [ 11.   6. 120. 126.]
174        cord_individul_obj[indivial_i, :] = [12.   5. 28. 33.]
175        cord_individul_obj[indivial_i, :] = [13.   6. 48. 54.]
176        cord_individul_obj[indivial_i, :] = [14.   5. 36. 41.]
177        cord_individul_obj[indivial_i, :] = [15.   4. 74. 78.]
178        cord_individul_obj[indivial_i, :] = [16.   4. 24. 28.]
179        cord_individul_obj[indivial_i, :] = [17.   4. 92. 96.]
180        cord_individul_obj[indivial_i, :] = [18.   6. 12. 18.]
181        cord_individul_obj[indivial_i, :] = [19.   4. 24. 28.]
182
183      min(cord_individul_obj[:, 3]) =  14.0
184      historl_G_best_iter[iter, 3] =  14.0
185   Begin iteration:
186
187   iter =  6
188        cord_individul_obj[indivial_i, :] = [ 0.   4. 52. 56.]
189        cord_individul_obj[indivial_i, :] = [ 1.   6. 38. 44.]
190        cord_individul_obj[indivial_i, :] = [ 2.   6. 136. 142.]
191        cord_individul_obj[indivial_i, :] = [ 3.   6. 24. 30.]
192        cord_individul_obj[indivial_i, :] = [ 4.   5. 44. 49.]
193        cord_individul_obj[indivial_i, :] = [ 5.   6.   8. 14.]
194        cord_individul_obj[indivial_i, :] = [ 6.   6. 64. 70.]
195        cord_individul_obj[indivial_i, :] = [ 7.   6. 24. 30.]
196        cord_individul_obj[indivial_i, :] = [ 8.   6. 56. 62.]
197        cord_individul_obj[indivial_i, :] = [ 9.   5. 58. 63.]
198        cord_individul_obj[indivial_i, :] = [10.   4. 32. 36.]
199        cord_individul_obj[indivial_i, :] = [11.   6. 60. 66.]
200        cord_individul_obj[indivial_i, :] = [12.   5. 32. 37.]
201        cord_individul_obj[indivial_i, :] = [13.   6. 16. 22.]
202        cord_individul_obj[indivial_i, :] = [14.   6. 34. 40.]
203        cord_individul_obj[indivial_i, :] = [15.   4. 38. 42.]
204        cord_individul_obj[indivial_i, :] = [16.   4. 32. 36.]
205        cord_individul_obj[indivial_i, :] = [17.   4. 68. 72.]
206        cord_individul_obj[indivial_i, :] = [ 18.   4. 124. 128.]
207        cord_individul_obj[indivial_i, :] = [19.   4. 28. 32.]
208
209      min(cord_individul_obj[:, 3]) =  14.0
210      historl_G_best_iter[iter, 3] =  14.0
211   Begin iteration:
212
213   iter =  7
214        cord_individul_obj[indivial_i, :] = [ 0.   4. 52. 56.]
215        cord_individul_obj[indivial_i, :] = [ 1.   6. 18. 24.]
216        cord_individul_obj[indivial_i, :] = [ 2.   6.   8. 14.]
217        cord_individul_obj[indivial_i, :] = [ 3.   6. 32. 38.]
218        cord_individul_obj[indivial_i, :] = [ 4.   5. 28. 33.]
219        cord_individul_obj[indivial_i, :] = [ 5.   6. 80. 86.]
220        cord_individul_obj[indivial_i, :] = [ 6.   6. 62. 68.]
221        cord_individul_obj[indivial_i, :] = [ 7.   6. 14. 20.]
222        cord_individul_obj[indivial_i, :] = [ 8.   6. 80. 86.]
223        cord_individul_obj[indivial_i, :] = [ 9.   5. 36. 41.]
224        cord_individul_obj[indivial_i, :] = [10.   5. 44. 49.]
225        cord_individul_obj[indivial_i, :] = [11.   6. 48. 54.]
226        cord_individul_obj[indivial_i, :] = [12.   6. 12. 18.]
227        cord_individul_obj[indivial_i, :] = [13.   6.   8. 14.]
228        cord_individul_obj[indivial_i, :] = [14.   6. 34. 40.]
229        cord_individul_obj[indivial_i, :] = [15.   4. 76. 80.]
230        cord_individul_obj[indivial_i, :] = [16.   3. 50. 53.]
231        cord_individul_obj[indivial_i, :] = [17.   4. 74. 78.]
232        cord_individul_obj[indivial_i, :] = [18.   4. 86. 90.]
233        cord_individul_obj[indivial_i, :] = [19.   4. 64. 68.]
234
235      min(cord_individul_obj[:, 3]) =  14.0
236      historl_G_best_iter[iter, 3] =  14.0
237   Begin iteration:
238
239   iter =  8
240        cord_individul_obj[indivial_i, :] = [ 0.   4. 46. 50.]
241        cord_individul_obj[indivial_i, :] = [ 1.   6. 24. 30.]
242        cord_individul_obj[indivial_i, :] = [ 2.   5. 88. 93.]
243        cord_individul_obj[indivial_i, :] = [ 3.   6. 80. 86.]
244        cord_individul_obj[indivial_i, :] = [ 4.   5. 56. 61.]
245        cord_individul_obj[indivial_i, :] = [ 5.   3. 88. 91.]
246        cord_individul_obj[indivial_i, :] = [ 6.   6. 74. 80.]
247        cord_individul_obj[indivial_i, :] = [ 7.   6. 28. 34.]
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```
248        cord_individul_obj[indivial_i, :] = [ 8.   6. 104. 110.]
249        cord_individul_obj[indivial_i, :] = [ 9.  5. 62. 67.]
250        cord_individul_obj[indivial_i, :] = [10.  4. 24. 28.]
251        cord_individul_obj[indivial_i, :] = [ 11.   6. 128. 134.]
252        cord_individul_obj[indivial_i, :] = [12.  6. 36. 42.]
253        cord_individul_obj[indivial_i, :] = [13.  6. 44. 50.]
254        cord_individul_obj[indivial_i, :] = [14.  5. 36. 41.]
255        cord_individul_obj[indivial_i, :] = [15.  4. 94. 98.]
256        cord_individul_obj[indivial_i, :] = [16.  3. 56. 59.]
257        cord_individul_obj[indivial_i, :] = [17.  4. 68. 72.]
258        cord_individul_obj[indivial_i, :] = [18.  6.  8. 14.]
259        cord_individul_obj[indivial_i, :] = [19.  4. 12. 16.]
260
261    min(cord_individul_obj[:, 3]) =  14.0
262    historl_G_best_iter[iter, 3] =  14.0
263 Begin iteration:
264
265 iter =  9
266        cord_individul_obj[indivial_i, :] = [ 0.  4. 48. 52.]
267        cord_individul_obj[indivial_i, :] = [ 1.  6. 24. 30.]
268        cord_individul_obj[indivial_i, :] = [ 2.   5. 128. 133.]
269        cord_individul_obj[indivial_i, :] = [ 3.  6. 28. 34.]
270        cord_individul_obj[indivial_i, :] = [ 4.  4. 28. 32.]
271        cord_individul_obj[indivial_i, :] = [ 5.  4. 42. 46.]
272        cord_individul_obj[indivial_i, :] = [ 6.  6. 70. 76.]
273        cord_individul_obj[indivial_i, :] = [ 7.  6. 76. 82.]
274        cord_individul_obj[indivial_i, :] = [ 8.   6. 114. 120.]
275        cord_individul_obj[indivial_i, :] = [ 9.  5. 52. 57.]
276        cord_individul_obj[indivial_i, :] = [10.  4. 48. 52.]
277        cord_individul_obj[indivial_i, :] = [11.  6.  8. 14.]
278        cord_individul_obj[indivial_i, :] = [12.  5. 18. 23.]
279        cord_individul_obj[indivial_i, :] = [13.  6. 48. 54.]
280        cord_individul_obj[indivial_i, :] = [14.  6. 72. 78.]
281        cord_individul_obj[indivial_i, :] = [15.  6. 58. 64.]
282        cord_individul_obj[indivial_i, :] = [16.  4. 38. 42.]
283        cord_individul_obj[indivial_i, :] = [17.  4. 54. 58.]
284        cord_individul_obj[indivial_i, :] = [18.  6. 66. 72.]
285        cord_individul_obj[indivial_i, :] = [19.  4. 34. 38.]
286
287    min(cord_individul_obj[:, 3]) =  14.0
288    historl_G_best_iter[iter, 3] =  14.0
289 Begin iteration:
290
291 iter =  10
292        cord_individul_obj[indivial_i, :] = [ 0.  4. 54. 58.]
293        cord_individul_obj[indivial_i, :] = [ 1.  6. 48. 54.]
294        cord_individul_obj[indivial_i, :] = [ 2.  6.  8. 14.]
295        cord_individul_obj[indivial_i, :] = [ 3.  6. 78. 84.]
296        cord_individul_obj[indivial_i, :] = [ 4.  4. 28. 32.]
297        cord_individul_obj[indivial_i, :] = [ 5.  3. 44. 47.]
298        cord_individul_obj[indivial_i, :] = [ 6.  6. 70. 76.]
299        cord_individul_obj[indivial_i, :] = [ 7.  6. 56. 62.]
300        cord_individul_obj[indivial_i, :] = [ 8.   6. 118. 124.]
301        cord_individul_obj[indivial_i, :] = [ 9.  5. 62. 67.]
302        cord_individul_obj[indivial_i, :] = [10.  5. 16. 21.]
303        cord_individul_obj[indivial_i, :] = [11.  6. 72. 78.]
304        cord_individul_obj[indivial_i, :] = [12.  5. 32. 37.]
305        cord_individul_obj[indivial_i, :] = [13.  6. 72. 78.]
306        cord_individul_obj[indivial_i, :] = [14.  5. 56. 61.]
307        cord_individul_obj[indivial_i, :] = [15.  4. 90. 94.]
308        cord_individul_obj[indivial_i, :] = [16.  4. 24. 28.]
309        cord_individul_obj[indivial_i, :] = [17.  4. 54. 58.]
310        cord_individul_obj[indivial_i, :] = [18.  6. 66. 72.]
311        cord_individul_obj[indivial_i, :] = [19.  4. 18. 22.]
312
313    min(cord_individul_obj[:, 3]) =  14.0
314    historl_G_best_iter[iter, 3] =  14.0
315 Iteration calculate over
316
317
318
319
320 All item are in Bin and:
321    Bin area =  1080
322    Real_area =  93.0
323    Proportion_of_area =  0.08611111111111111
324    BEST_CHROM =
325      berth: [20.5 12.  26.   6.5 16.5  2. ]
326      time: [0. 0. 0. 0. 0. 0.]
327      num_QC:  [3. 5. 2. 5. 2. 3.]
328    Objective function values and some other indicators:
329    Obj0 = 6.00            Obj1 = 8.00            Obj0 + Obj1 = 14.00
330    Total movement of crane: 8.00
331    Total waiting time in berth position: 0.00
```

332   Total index of q during berthing: 606.00
333   Specific arrangement for each vessel:
334   V_id: 0   li: 5.0   xi: 20.5   bow of i: 18.0   tail of i: 23.0   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
335   V_id: 1   li: 6.0   xi: 12.0   bow of i: 9.0   tail of i: 15.0   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: 120.0   work
load_i: 120.0   work load gap_i: 0
336   V_id: 2   li: 6.0   xi: 26.0   bow of i: 23.0   tail of i: 29.0   gama_i0: 0.0   gama_i1: 6
.0   gama_i1 + 1: 7.0   gama_i1 - gama_i0: 6.0   duration_time_i: 7.0   demand_i: 260.0   work
load_i: 260.0   work load gap_i: 0
337   V_id: 3   li: 5.0   xi: 6.5   bow of i: 4.0   tail of i: 9.0   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: 80.0   work load_i:
80.0   work load gap_i: 0
338   V_id: 4   li: 3.0   xi: 16.5   bow of i: 15.0   tail of i: 18.0   gama_i0: 0.0   gama_i1: 4
.0   gama_i1 + 1: 5.0   gama_i1 - gama_i0: 4.0   duration_time_i: 5.0   demand_i: 200.0   work
load_i: 200.0   work load gap_i: 0
339   V_id: 5   li: 4.0   xi: 2.0   bow of i: 0.0   tail of i: 4.0   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
340
341   Algorithm finished and the total CPU time: 74 s
342   End
343