


```
80     second level: [2. 1.]
81     third level: [3. 7.] ]
82     The No. 5 iteration is finished!
83
84 Beging the No. 6 iteration:
85     obj[gen-1] = 7.49     temp_best_value_gen = 7.49
86     No, maintain solution and obj[gen] = 7.49 , and the tolerance_counter = 5
87     solution chromosome =
88     first level: [ [2.06 4. ]
89     second level: [2. 1.]
90     third level: [3. 7.] ]
91     The No. 6 iteration is finished!
92
93
94 -----
95 The iteration is terminated and then visulize the solution:
96     solution chromosome =
97     first level: [ [2.06 4. ]
98     second level: [2. 1.]
99     third level: [3. 7.] ]
100 Objective function values and some other indicators:
101     Obj0 = 4.00           Obj1 = 3.49           Obj0 + Obj1 = 7.49
102     Total movement of crane: 0.49
103     Total waiting time in berth position: 3.00
104     Total index of q during berthing: 22.00
105 Specific arrangement for each vessel:
106     V_id: 0              li: 4.0              xi: 2.1              bow of i: 0.1              tail of i: 4.1              gama_i0: 2.0              gama_i1: 5.0
107     duration_time_i: 3.0              demand_i: 160.0              work load_i: 160.0              work load gap_i: 0
108     V_id: 1              li: 8.0              xi: 4.0              bow of i: 0.0              tail of i: 8.0              gama_i0: 1.0              gama_i1: 2.0
109     duration_time_i: 1.0              demand_i: 120.0              work load_i: 120.0              work load gap_i: 0
110
111 Algorithm finished and the total CPU time: 196 s
112 End
113
```