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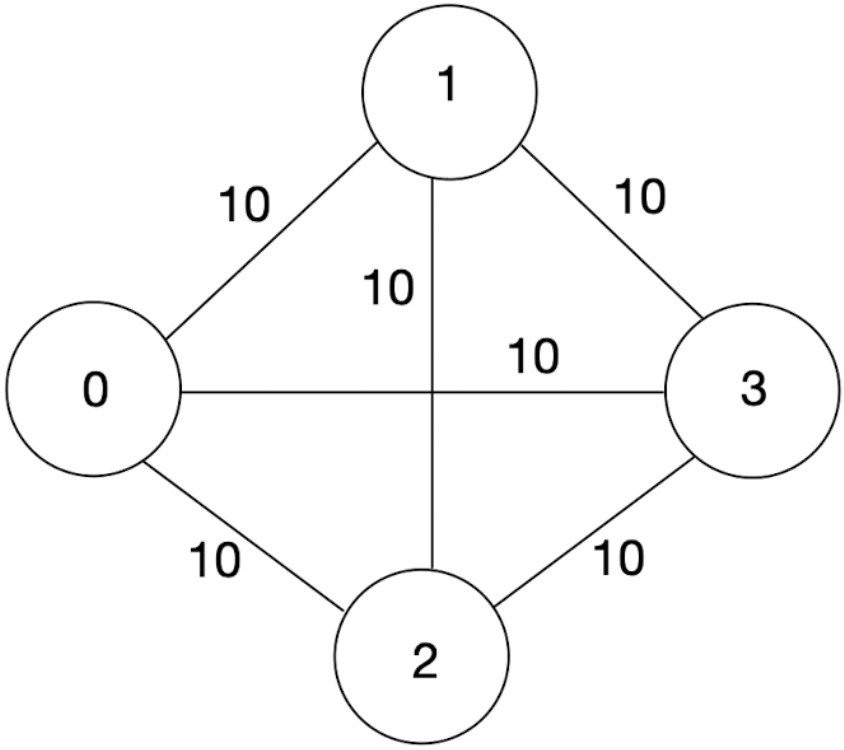
Project 3
CSCI311 – Spring 2023

Project 3 Testing

“test_01.in” contents:

```
4 6 10 5
0 3
0 0
1 0
2 0
3 0
0 1 10
0 2 10
0 3 10
1 2 10
1 3 10
2 3 10
```

Corresponding to the graph:



Explanation:

Verifying correct output when initial charge is less than all edges.

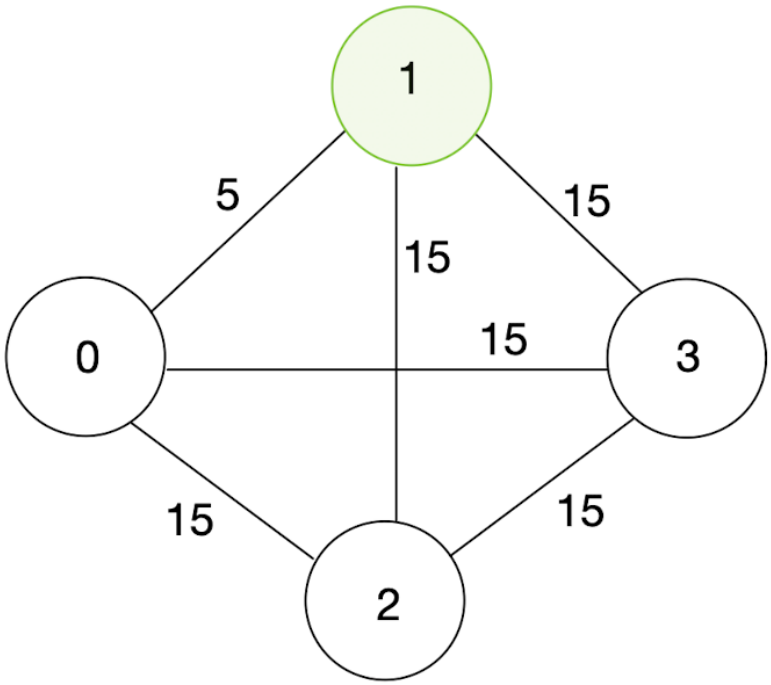
Expected output in “test_01.out”:

No suitable path from 0 to 3 exists

“test_02.in” contents:

4 6 10 5
0 3
0 0
1 1
2 0
3 0
0 1 5
0 2 15
0 3 15
1 2 15
1 3 15
2 3 15

Corresponding to the graph:



Expected output in “test_02.out”:

No suitable path from 0 to 3 exists

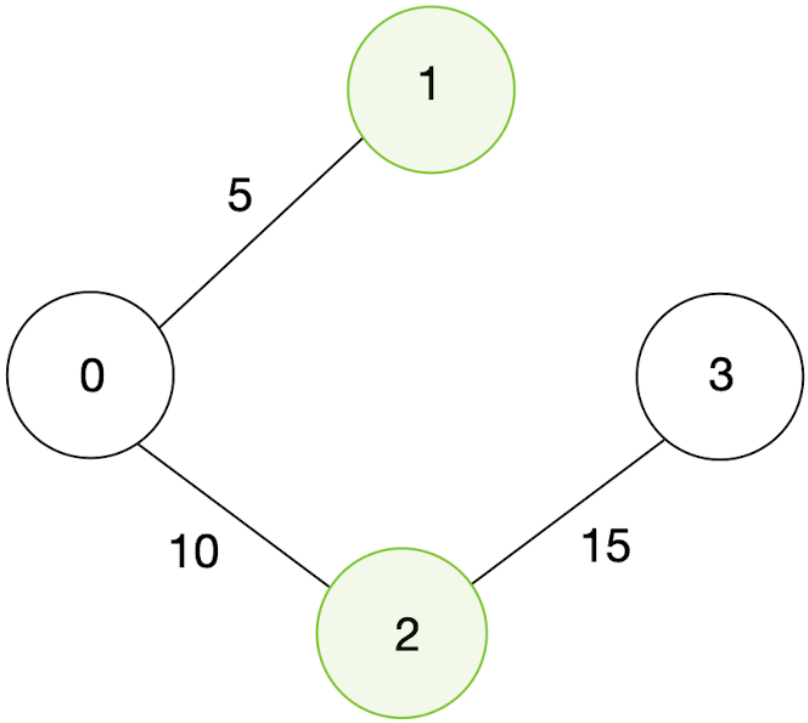
Explanation:

Verifying that correct output when the initial charge can be handled by an edge, but the max charge cannot be on any of the other edges.

“test_03.in” contents:

4 3 15 5
0 3
0 0
1 1
2 1
3 0
0 1 5
0 2 10
2 3 15

Corresponding to the graph:



Expected output in “test_03.out”:

Verify Path: 1
35: 0 1 2 3

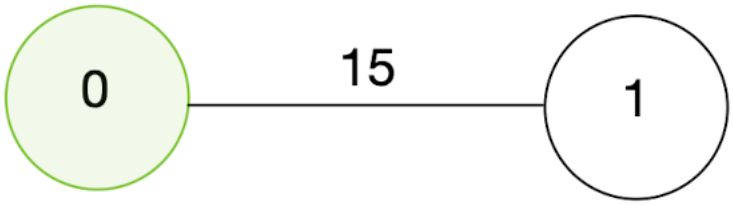
Explanation:

Verifying that the car can pass *back* through to the starting node to finish its path with no issues.

“test_04.in” contents:

2 1 15 0
0 1
0 1
1 0
0 1 15

Corresponding to the graph:



Expected output in “test_04.out”:

Verify Path: 1
15: 0 1

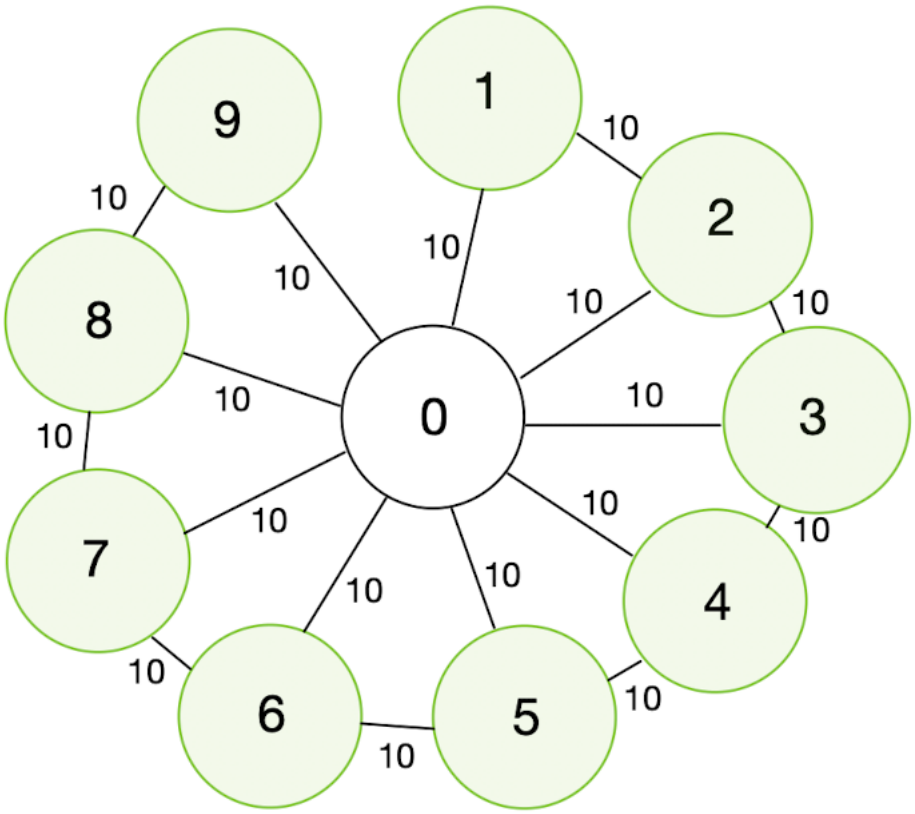
Explanation:

Verifying that when the initial charge is 0 and the start node is a charge station, the start node charges the car.

“test_05.in” contents:

```
10 17 10 5
0 9
0 0
1 1
2 1
3 1
4 1
5 1
6 1
7 1
8 1
9 1
0 1 10
0 2 10
0 3 10
0 4 10
0 5 10
0 6 10
0 7 10
0 8 10
0 9 10
1 2 10
2 3 10
3 4 10
4 5 10
5 6 10
6 7 10
7 8 10
8 9 10
```

Corresponding to the graph:



Expected output in "test_05.out":

No suitable path from 0 to 9 exists

Explanation:

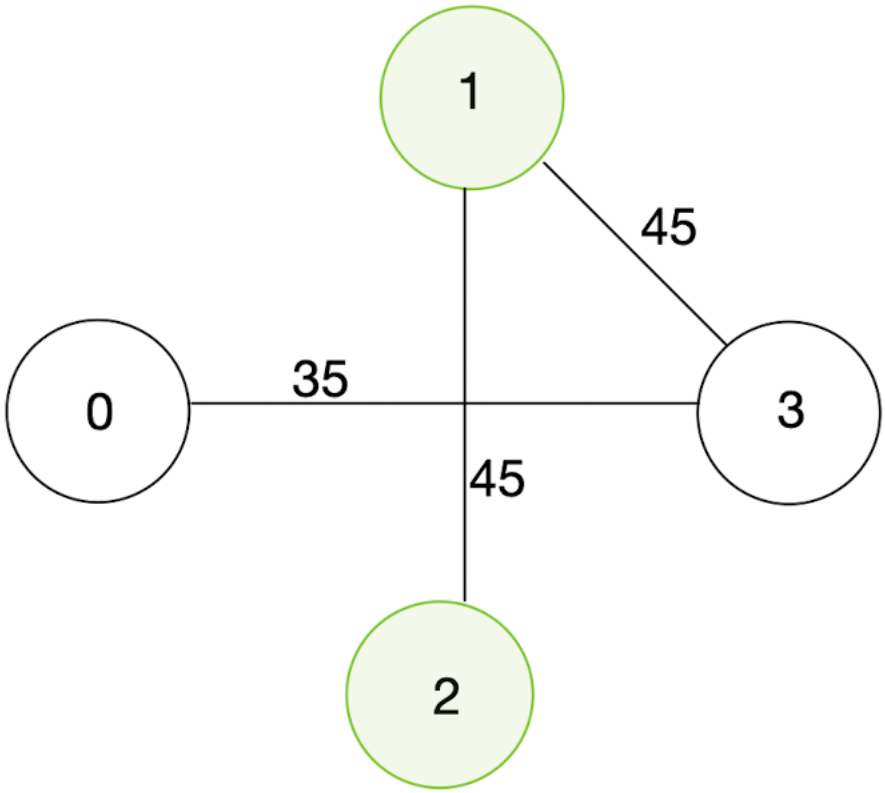
Verifying that when all nodes other than the starting node are charging stations and the edges of all the nodes can be satisfied by the max charge, but not the initial charge, the correct output is produced. This causes the starting node to have no neighbors in the "new graph" which is a unique situation.

"test_06.in" contents:

4 3 45 35
0 2
0 0
1 1
2 1

3 1
0 3 35
1 2 45
1 3 45

Corresponding to the graph:



Expected output in “test_06.out”:

Verify Path: 1
125: 0 3 1 2

Explanation:

Verifying that the car can pass through the highest node value in the graph, without when the destination is at a lower value node.