

What is Dijkstra's algorithm.?

One algorithm for finding the shortest path from a starting node to a target node in a weighted graph is Dijkstra's algorithm. The algorithm creates a tree of shortest paths from the starting vertex, the source, to all other points in the graph..

In the algorithm all we are looking from nodes perspective. We calculate for each node which neighbor nodes are closer. Then we are finding our path from src to dest by using this info.

Test 1

C:\Users\Ahmet Zafer\Desktop\algocal

```
joseph starts: 0
NODE: 0      TIME:0
NODE: 1      TIME:4
NODE: 4      TIME:7
NODE: 5      TIME:20
--return--
NODE: 5      TIME:50
NODE: 6      TIME:56
NODE: 2      TIME:58
NODE: 3      TIME:68
NODE: 1      TIME:73
NODE: 0      TIME:79

duration: 79

lucie starts: 2
NODE: 2      TIME:0
NODE: 3      TIME:10
NODE: 1      TIME:15
NODE: 4      TIME:18
--return--
NODE: 4      TIME:48
NODE: 3      TIME:49
NODE: 1      TIME:54
NODE: 0      TIME:60
NODE: 2      TIME:68

duration: 68
```

Test 2

Seç C:\Users\Ahmet Zafer\Desktop\algocal²san2-2.exe

```
joseph starts: 0
NODE: 0      TIME:0
NODE: 2      TIME:5
NODE: 1      TIME:7
NODE: 6      TIME:11
NODE: 7      TIME:13
NODE: 9      TIME:21
    --return--
NODE: 9      TIME:51
NODE: 10     TIME:54
NODE: 6      TIME:59
NODE: 3      TIME:60
NODE: 1      TIME:67
NODE: 0      TIME:70

duration: 70

lucie starts: 3
NODE: 3      TIME:0
NODE: 10     TIME:8
NODE: 6      TIME:13
NODE: 7      TIME:15
NODE: 8      TIME:18
NODE: 11     TIME:20
NODE: 15     TIME:25
    --return--
NODE: 15     TIME:55
NODE: 16     TIME:64
NODE: 14     TIME:72
NODE: 5      TIME:83
NODE: 10     TIME:87
NODE: 6      TIME:92
NODE: 3      TIME:93

duration: 93
```

Test 3

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Crossing During Waiting

joseph starts: 0

NODE: 0	TIME:0
NODE: 3	TIME:4
NODE: 2	TIME:13
NODE: 4	TIME:18
NODE: 6	TIME:31

--return--

NODE: 6	TIME:61
NODE: 3	TIME:65
NODE: 5	TIME:71
NODE: 1	TIME:78
NODE: 0	TIME:84

duration: 84

lucie starts: 2

NODE: 2	TIME:0
NODE: 4	TIME:5
NODE: 5	TIME:10
NODE: 1	TIME:17

--return--

NODE: 1	TIME:47
NODE: 0	TIME:53
NODE: 3	TIME:57
NODE: 2	TIME:66

duration: 66

No solution(Every time i chanced a node it is finding another way to cross so No Solution)

Test 4

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Crossing During Waiting

joseph starts: 4

NODE: 4 TIME:0

NODE: 5 TIME:100

--return--

NODE: 5 TIME:130

NODE: 7 TIME:139

NODE: 6 TIME:142

NODE: 4 TIME:148

duration: 148

No SOLUTION

lucie starts: 0

NODE: 0 TIME:0

NODE: 3 TIME:5

NODE: 6 TIME:10

NODE: 5 TIME:16

NODE: 7 TIME:25

--return--

NODE: 7 TIME:55

NODE: 6 TIME:58

NODE: 0 TIME:66

duration: 66

No solution(When i change the path there is no other optional way)

Test 5

 C:\Users\Ahmet Zafer\Desktop\algocal²san2-2.e

```
joseph starts: 0
NODE: 0      TIME:0
NODE: 3      TIME:6
NODE: 5      TIME:13
NODE: 2      TIME:21
      --return--
NODE: 2      TIME:51
NODE: 3      TIME:54
NODE: 5      TIME:61
NODE: 6      TIME:66
NODE: 4      TIME:70
NODE: 1      TIME:73
NODE: 0      TIME:79

duration: 79

lucie starts: 5
NODE: 5      TIME:0
NODE: 6      TIME:5
NODE: 4      TIME:9
NODE: 1      TIME:12
      --return--
NODE: 1      TIME:42
NODE: 3      TIME:142
NODE: 5      TIME:242

duration: 242

No SOLUTION
```