Dynamic programming approach (Bottom Up):

distance (7, 4) = 0

distance (4, 3) = min {c(4,7) + distance(7, 4)}
= 18

distance (5, 3) = min {c(5,7) + distance(7, 4)}
= 13

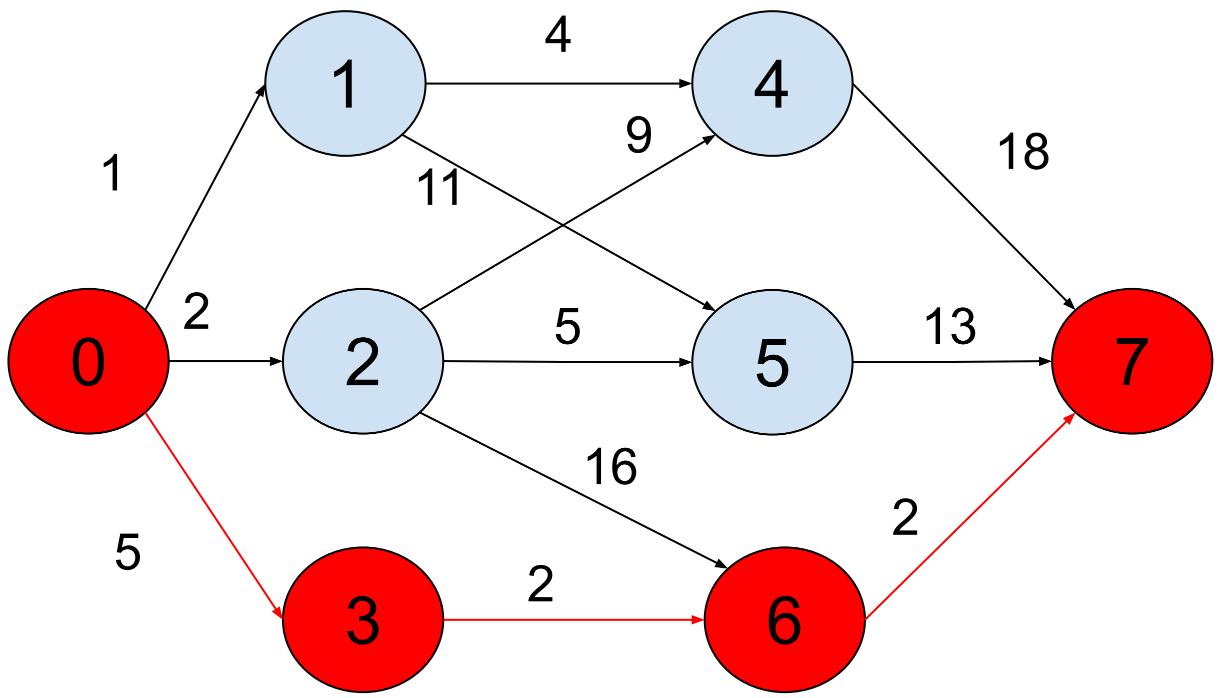
distance (6, 3) = min {c(6,7) + distance(7, 4)}
= 2

distance (1, 2) = min {4 + distance(4,3) ,11 + distance (5,3)} = 22

distance (2, 2) = min {9 + 18, 5 + 13 , 16 + 2} = 18

distance (3, 2) = min { 2 + 2} = 4

distance(0 , 1) = min {
1+ distance(1,2),
2 + distance (2,2),
5 + distance (3,2)
}
= min { 1 + 22, 2 + 18, 5 + 4}
= 9



Program's Solution: [9, 22, 18, 4, 18, 13, 2, 0]

Solution approach:

~~Greedy approach: we keep on selection minimum edges from outgoing edges of each stage til reach last node.~~

~~0-1, 1-4, 4-7 → 23 is this minium between 0-7 ?~~

distance(node n, stage s) = distance from node n in stage s to the last node.

c(u,v) = cost of edge <u,v>

Stage 0,1,2,4

distance(0,1) = min (
c(0,1) + distance (1,2),
c(0,2) + distance (2,2),
c(0,3) + distance (3,2)
)

distance (1,1) = min (
c(1,4) + distance (4,3),
c(1,5) + distance (5,3),
)

distance (2,1) = min (
c(2,4) + distance (4,3),
c(2,5) + distance (5,3),
c(2,6) + distance (6,3),
) ....

distance(7,4) = 0