

M6: Hands-On: Dijkstra's Algorithm

Due Apr 16 at 11:59pm

Points 1

Questions 1

Time Limit None

Allowed Attempts Unlimited

Instructions

Hands-On: Dijkstra's Least-Cost Path Algorithm

This activity focuses on the fundamental mechanics of applying Dijkstra's Least-Cost Path algorithm to a directed, weighted graph.

Computing least-cost paths

1. Open the lecture notes on Least-Cost Path Algorithms.
2. Review the note set to refresh your memory on Dijkstra's LCP algorithm.
3. Go to the slides that illustrate the step-by-step operation of Dijkstra's algorithm on a given graph.
4. Go through each step of this algorithm in the slides and make sure you understand how it works.

Submission

The submission page for this activity asks you to apply your



[Take the Quiz Again](#)

Attempt History

| | Attempt | Time | Score |
|--------|---------------------------|--------------------|------------|
| LATEST | Attempt 1 | less than 1 minute | 1 out of 1 |

❗ Correct answers are hidden.

Score for this attempt: 1 out of 1

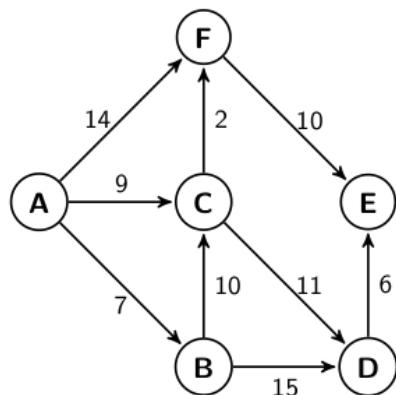
Submitted Apr 14 at 8:36pm

This attempt took less than 1 minute.

Question 1

1 / 1 pts

What would the **cost** array contain immediately after Dijkstra's algorithm *discovers with certainty* the least-cost path from A to C but just before this path is used to update the cost estimates of C's neighbors in the graph shown below?



- A.

| | | | | | |
|---|---|---|----------|----------|----|
| 0 | 7 | 9 | ∞ | ∞ | 14 |
| A | B | C | D | E | F |
- B.

| | | | | | |
|---|---|---|----|----------|----|
| 0 | 7 | 9 | 14 | ∞ | 14 |
| A | B | C | D | E | F |
- C.

| | | | | | |
|---|---|---|----|----------|----|
| 0 | 7 | 9 | 22 | ∞ | 14 |
| A | B | C | D | E | F |
- D.

| | | | | | |
|---|---|---|----|----|----|
| 0 | 7 | 9 | 20 | 21 | 11 |
| A | B | C | D | E | F |

☐ A☐ B☒ C☐ DQuiz Score: **1** out of 1