# Quiz 2

Friday, March 8, 2024 7:45 AM

## 1 of 10

How does Breadth-first search choose which node to expand next?

- A The shallowest node in the current frontier.
- B The deepest node in the current frontier.
- C Nodes in the current frontier can be chosen randomly.
- D The node in the current frontier with the lowest path cost.

SUBMIT ANSWER

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How does Uniform-cost search choose which node to expand next?

- A The shallowest node in the current frontier.
- B The deepest node in the current frontier.
- C Nodes in the current frontier can be chosen randomly.
- D The node in the current frontier with the lowest path cost.

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When does the Uniform-cost search algorithm terminate?

- A When it expands a node from the current frontier, and the goal node is among the successors of that node.
- B When it expands a node from the current frontier, and that node is the goal node itself.
- C When the frontier is empty.
- D B and C are correct.
- E A and C are correct.

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Which of the following algorithms are guaranteed to find the optimal solution?

- A: Depth-first search
- B: Uniform-cost search
- C: Breadth-first search, if step costs are all identical.
- D: B and C are correct.

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A search algorithm is said to be complete if ...

- A: it is guaranteed to find a solution when there is one.
- B: it is guaranteed to find the optimal solution.
- C: it is deterministic.
- D: it can terminate.

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What can be considered the biggest problem for Breadth-first search?

- A: Execution time
- B: Memory requirement
- C: Incompleteness.
- D: Nonoptimality.

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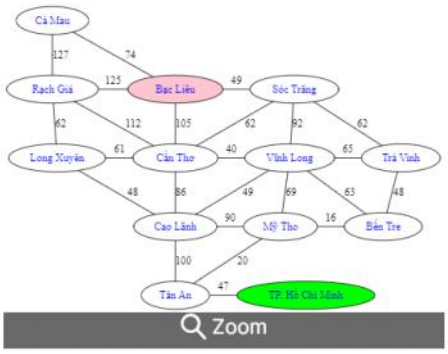



Using **Breadth-First Search (BFS)**, what is the solution path to go from Ho Chi Minh City to Bac Lieu?

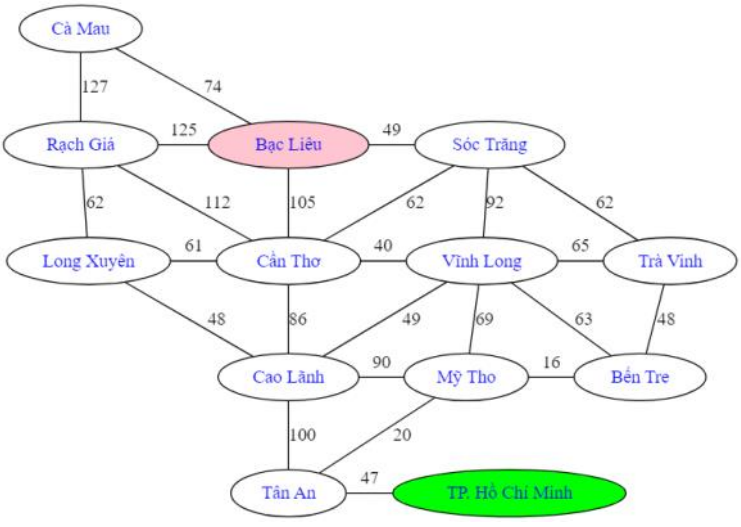
A TP. Hồ Chí Minh - Tân An - Mỹ Tho - Vĩnh Long - Sóc Trăng - Bạc Liêu

B TP. Hồ Chí Minh - Tân An - Cao Lãnh - Long Xuyên - Rạch Giá - Bạc Liêu

C TP. Hồ Chí Minh - Tân An - Cao Lãnh - Cần Thơ - Bạc Liêu

D TP. Hồ Chí Minh - Tân An - Mỹ Tho - Bến Tre - Trà Vinh - Sóc Trăng - Bạc Liêu

SUBMIT ANSWER



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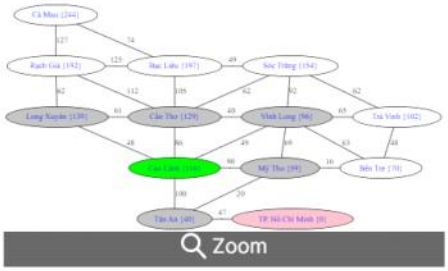



We are using **Uniform-Cost Search (UCS)** to find a solution path from Cao Lanh to Ho Chi Minh City. After expanding node Cao Lanh, we have Long Xuyen, Can Tho, Vinh Long, My Tho, and Tan An on the frontier. Which node will be chosen from the frontier to expand next?

*Note that the numbers in the curly brackets are the estimated distances to go from the current cities to Ho Chi Minh city, and the numbers on the edges are the actual distances between the two connected cities.*

A Cần Thơ

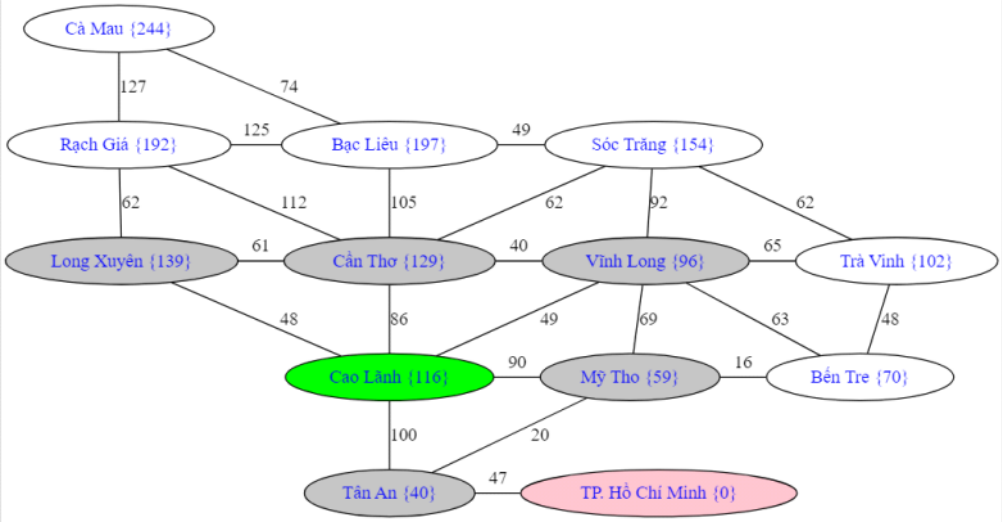
B Long Xuyên

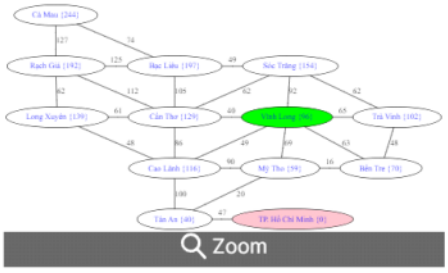
C Mỹ Tho

D Vĩnh Long

E Tân An

SUBMIT ANSWER






We are using **Uniform-Cost Search (UCS)** to find a solution path from Vinh Long to Ho Chi Minh City. After expanding node Vinh Long, we have Soc Trang, Can Tho, Cao Lanh, My Tho, Ben Tre, and Tra Vinh on the frontier. Which node will be chosen from the frontier to expand next?

*Note that the numbers in the curly brackets are the estimated distances to go from the current cities to Ho Chi Minh city, and the numbers on the edges are the actual distances between the two connected cities.*

A Cần Thơ

B Mỹ Tho

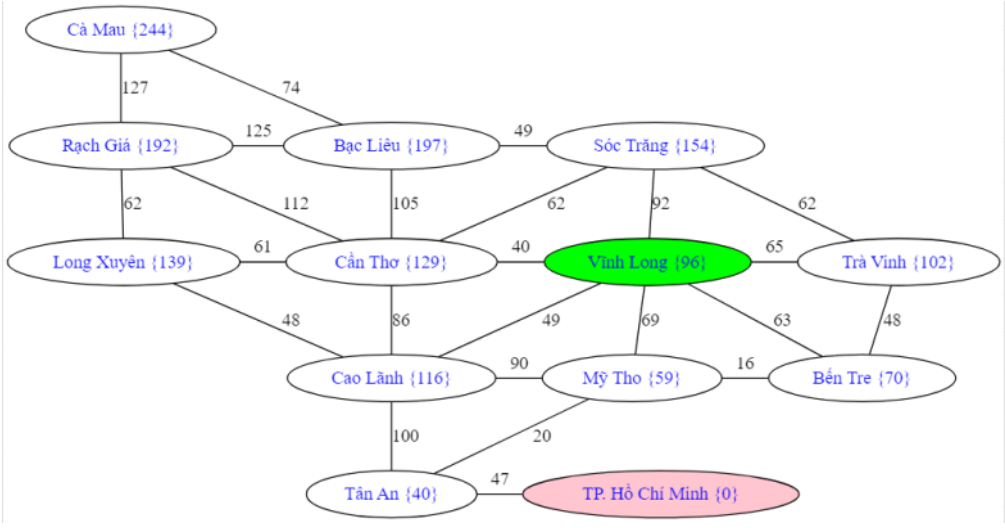
C Bến Tre

D Sóc Trăng

E Cao Lãnh

F Trà Vinh

SUBMIT ANSWER



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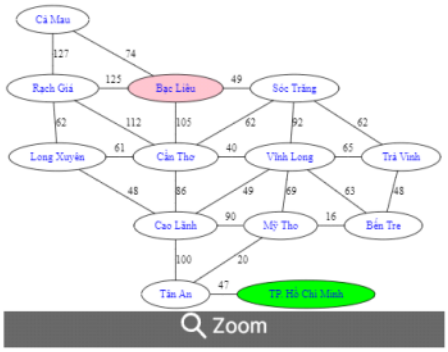



Using **Uniform-Cost Search (UCS)**, what is the solution path to go from Ho Chi Minh City to Bac Lieu?

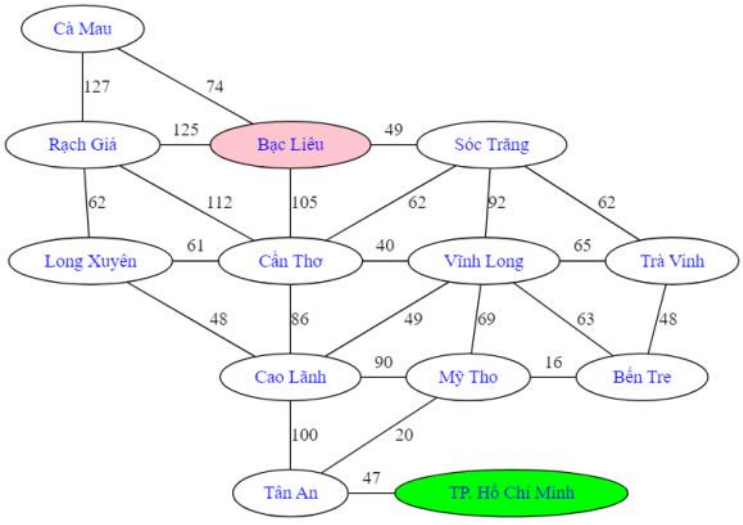
A TP. Hồ Chí Minh - Tân An - Cao Lãnh - Vĩnh Long - Sóc Trăng - Bạc Liêu

B TP. Hồ Chí Minh - Tân An - Mỹ Tho - Vĩnh Long - Sóc Trăng - Bạc Liêu

C TP. Hồ Chí Minh - Tân An - Cao Lãnh - Cần Thơ - Bạc Liêu

D TP. Hồ Chí Minh - Tân An - Mỹ Tho - Bến Tre - Trà Vinh - Sóc Trăng - Bạc Liêu

SUBMIT ANSWER




**Finished!**

**Score:** 10/10

**Percent:** 100%

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