Quiz 5

1/2 questions correct

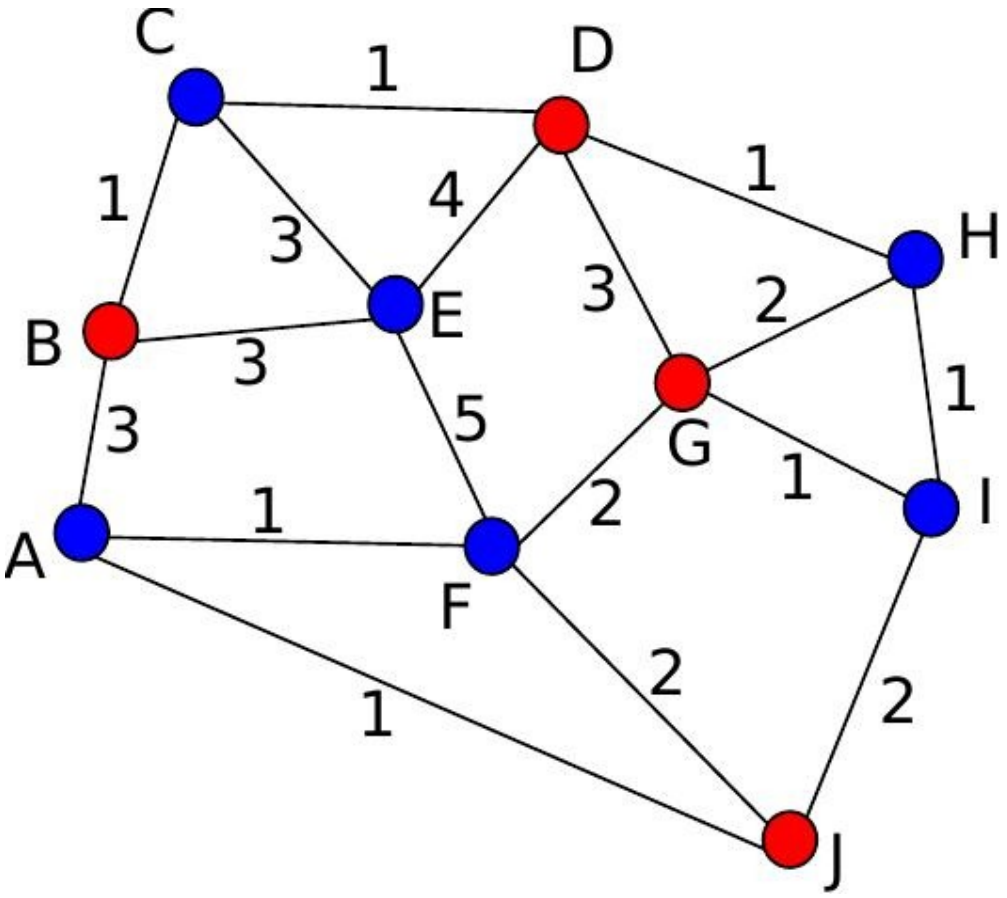
Score required to pass: 2 of 2 correct, or higher.

Retake

Next (/learn/approximation-algorithms-part-2/lecture/2CuQt/primal-dual-algorithm-part1)

✔ 1.

Consider the following instance of Steiner tree, where the goal is to find a tree that connects vertices $\{B, D, G, J\}$ of minimum cost.



Suppose we run the primal-dual algorithm described during the lectures.

Which set of edges belongs to the solution output by the algorithm?

Suppose that whenever the algorithm has to break ties, it picks the vertex set or edge of minimum lexicographic order (for example, if it has the choice between adding edge (A, B) and (C, D), it will always pick (A, B)).

☐ $\{(A, J)\}$

Well done!

☐ $\{(I, G), (I, H)\}$

Well done!

☐ $\{(A, B)\}$

Well done!

☐ $\{(D, G)\}$

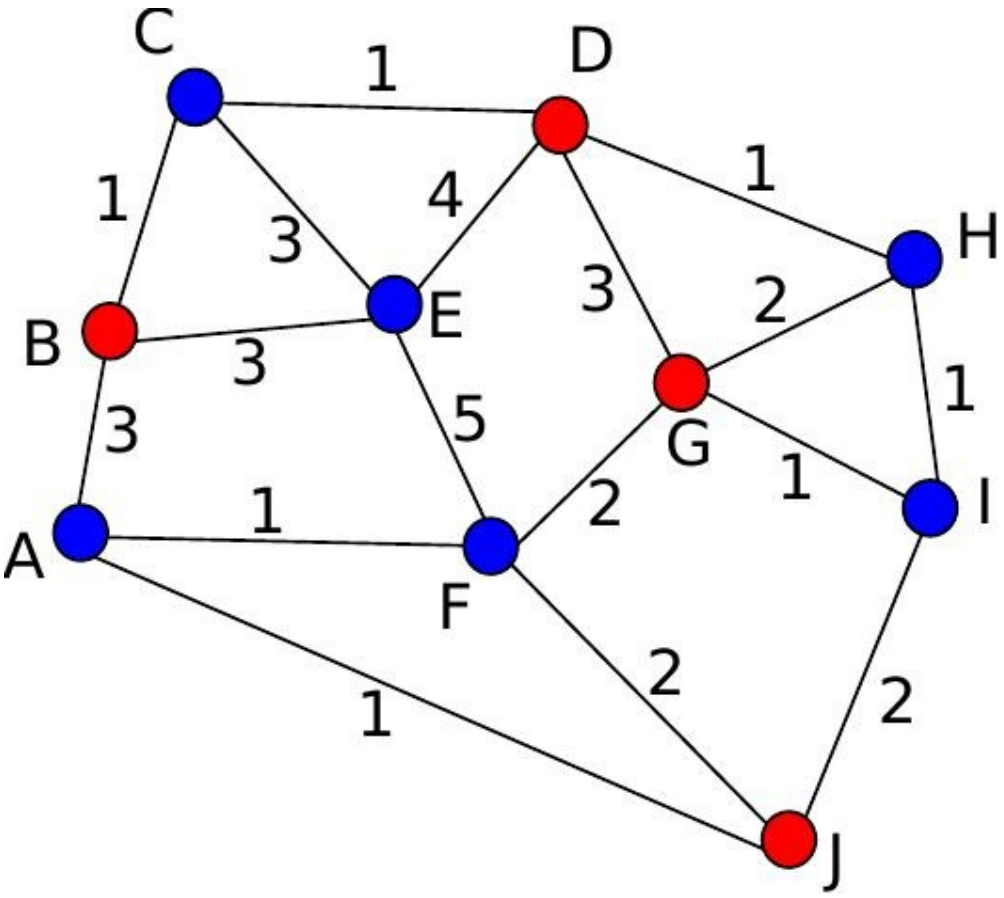
Well done!

☐ $\{(D, H)\}$

Well done!

✖ 2.

Consider the following instance of Steiner tree, where the goal is to find a tree that connects vertices $\{B, D, G, J\}$ of minimum cost.



Suppose we run the primal-dual algorithm described during the lectures.

Suppose that whenever the algorithm has to break ties, it picks the vertex set or edge of minimum lexicographic order (for example, if it has the choice between adding edge (A, B) and (C, D), it will always pick (A, B)).

What is the value of the Steiner tree output by the algorithm described during Lecture 5?

10

Sorry, that's not what we're looking for.