Started on Thursday, November 9, 2023, 11:00 AM
State Finished
Completed on Thursday, November 9, 2023, 11:09 AM
Time taken 9 mins 45 secs  Grade 7.00 out of 10.00 (70%)
Grade 7,00 (Out of 10.00) (70%)
Question 1
Correct
1.00 points out of 1.00
When programming Prim's algorithm, it is imperative to find the the lightest edge quickly. What is one way of doing this?
when programming min's algorithm, it is imperative to lind the tine agriese edge quicky, what is one way or owing time:
a. All of the above.
□ b. Place the edges into a max priority queue.
C. Place the vertices into a priority queue and do an increaseKey() operation as new vertices are discovered.
O. d. None of the above.
■ e. Place the vertices into a min priority queue where the key is the shortest adjacent edge.   ✓
Your answer is correct.
The correct answer is:
Place the vertices into a min priority queue where the key is the shortest adjacent edge.
Quantion 2
Constitution Const
100 points out of 100
What is meant when it is said that the shortest paths problem has an optimal substructure?
a. None of the above.
b. A shortest path between two vertices contains other shortest paths within it.
C. The shortest path will always have a cycle, to make it easy to get back to where you came from.
O d. All of the above.
e. The shortest path found by an algorithm such as Dijkstra's will always be unique.
C. III. Allo Can political by at algorithm and as dispased a find unity and dispased.
Your answer is correct.
The correct answer is:
A shortest path between two vertices contains other shortest paths within it.
Question 3
boonse:
000 points out of 1.00
u v
$(5)$ $\xrightarrow{2}$ $(9)$
$(5) \longrightarrow (9)$
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: rejax(u,v,w).  a. None of the above.
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above.  b. u.d is changed to 7 ×
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above.  b. u.d is changed to 7 ×  c. u.d is unchanged.
Given the vertices above, where S represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above.  b. u.d is changed to 7 X  c. u.d is unchanged.  d. All of the above.
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above.  b. u.d is changed to 7 × c. u.d is unchanged.
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Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above.  b. u.d is changed to 7 ×  c. u.d is unchanged.  d. All of the above.  e. v.d is unchanged.
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Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above. b. ud is changed to 7 * c. ud is unchanged. d. All of the above. e. vd is unchanged.
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above.  b. u.d is changed to 7 ×  c. u.d is unchanged.  d. All of the above.  e. v.d is unchanged.
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above.  b. ud is changed to 7 X  c. ud is unchanged.  d. All of the above.  e. vd is unchanged.  Your answer is incorrect.  The correct answer is ud is unchanged.
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above.  b. ut is changed to 7 ×  c. ut is unchanged.  d. All of the above.  e. vt is unchanged.  Your answer is incorrect.  The correct answer is ut is unchanged.  Question 4  Correct  Correct
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above. b. u.d is changed to 7 X c. u.d is unchanged. d. All of the above. e. v.d is unchanged.  Your answer is incorrect. The correct answer is unchanged.  Question 4 Correct Corre
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above.  b. ut is changed to 7 ×  c. ut is unchanged.  d. All of the above.  e. vt is unchanged.  Your answer is incorrect.  The correct answer is ut is unchanged.  Question 4  Correct  Correct
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Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above. b. u.d is changed to 7 X c. u.d is unchanged. d. All of the above. e. v.d is unchanged.  Your answer is incorrect. The correct answer is u.d is unchanged.  Correct.  Correct answer is  u.d is unchanged.  Dijkstra's algorithm allows negative weight edges.
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above. b. u.d is changed to 7 % c. u.d is unchanged. d. All of the above. e. v.d is unchanged.  Vour answer is incorrect. The correct answer is: u.d is unchanged.  Correct answer is: u.d is unchanged.  Dijkstor's algorithm allows negative weight edges.
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,vw).  a. None of the above. b. u.d is changed to 7 × c. u.d is unchanged. d. All of the above. e. v.d is unchanged.  Your answer is incorrect. The correct answer is: u.d is unchanged.  Dispense act of 100  Dispense ac
Given the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command: relax(u,v,w).  a. None of the above. b. u.d is changed to 7 X c. u.d is unchanged. d. All of the above. e. v.d is unchanged.  Your answer is incorrect. The correct answer is u.d is unchanged.  Correct.  Correct answer is  u.d is unchanged.  Dijkstra's algorithm allows negative weight edges.
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What is ward is incorrect. The correct answer is "False".  In the correct answer is "False".
General terveties above, where 5 represents the current distance from the source to vertex v. what is the result of executing the command relaxiques).  a. None of the above. b. u. u.d is changed to 7 X c. u.d is unchanged. d. All of the above. e. v.d is unchanged.  Your asswer is incorrect. The correct answer is upon and of 100  Distance algorithm allows negative weight edges.  The correct answer is "failed".
Genes the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command; relax(u,v,w).  a. None of the above.  b. u. us is changed to 7 X  c. u. us is understanced.  d. All of the above.  e. v. d is unchanged.  Your answer is incorrect.  The correct answer is  us is incorrect.  The correct answer is  100 points and of 100  Distance 4  True  False V  The correct answer is Taler.
General terveties above, where 5 represents the current distance from the source to vertex v. what is the result of executing the command relaxiques).  a. None of the above. b. u. u.d is changed to 7 X c. u.d is unchanged. d. All of the above. e. v.d is unchanged.  Your asswer is incorrect. The correct answer is upon and of 100  Distance algorithm allows negative weight edges.  The correct answer is "failed".
Cover the vertices above, where 5 represents the current distance from the source to vertice v, what is the result of executing the command; relandaçues).  a. Nover of the above.  b. u. dis or Ampedia of 7 ×  c. u. dis verbanged.  d. All of the above.  b. val is unchanged.  Vour answer is incorrect.  The correct answer is the current distance from the source to vertice v, what is the result of executing the command; relandaçues).  Counties 4  Correct  Upperson and of 100  Counties 5  Correct  100  Counties 6  Correct  100  Counties 6  Correct  100  Counties 5  Correct  100  Counties 6  Correct  100  Counties 6  Correct  100  Counties 6  Correct  100  Counties 5  Correct  100  Counties 6  Correct  100  Counties 6  Correct  100  Counties 7  Counties 5  Counties 5  Counties 5  Counties 5  Counties 7  Counties
Genetic exticles above, where 5 represents the current distance from the source to vertex u and 9 is the current known distance from the source to vertex v, what is the result of executing the command; relax(u,vw).  a. None of the above. b. u. us is changed to 7 X c. u dis current area d. d. All of the above. e. v dis surchanged.  Your answer is incorrect. The correct answer is und is unchanged.  Dispose and of 100  Dispos
Given the vertices below, where 5 represents the current distance from the source to vertice v, what is the result of necoding the command, relanducivy).  a. Note of the allow. b. u. dis fundamental c. u. dis unchanged.  d. All of the above. e. v. dis unchanged.  Wour answer is incornect.  Pour answer is incornect.  Pour answer is incornect.  Dispassify algorithm allows negative weight edges.  Would be cornect answer is "false".  Dispassify algorithm allows negative weight edges.  Dispassify algorithm allows negative weight edges.  Dispassify algorithm allows negative weight edges.  The cornect answer is "false".  Dispassify algorithm?
Circum the vertical above, after 8 represents the current distance from the source to vertex v, what is the result of executing the command, relatious not.  8. Nover of the above.  9. Let of the above.  10. All of the above.  10. All of the above.  10. All of the above.  10. Personed assert is scarred.  10. Personed assert is scarred.  10. Personed assert is the above.  10. Personed assert is Tables  10. Personed asser
Center the vertices above, where 5 represents the current distance from the source to vertice u and 9 is the current trooun distance from the source to vertice u, what is the result of executing the command; refact, const.    Note of the above.
Given the verticions above, where 5 represents the current distance from the source to vertex v, what is the result of executing the command relactions).  a. Notice of the above.  b. u. dis t-changed to 7 %  c. u. dis unchanged.  Your assumer is incorrect.  The comment assumer is  u.d. as unchanged.  Diparative signorities above register exists.  Dipar
Center the vertices above, where 5 represents the current distance from the source to vertice u and 9 is the current trooun distance from the source to vertice u, what is the result of executing the command; refact, const.    Note of the above.
Since the vertex shore, where 5 represents the current distance from the source to vertex v, what is the result of executing the command riduo(quos).  A Nove of the above.  A Value of the above.  A Value of the above.  Browners is recorned.  The connect consent is.  Consents 4.  Consents 5.  Consents 6.  Consents 6.
Concer the vertices above, where 5 represents the current distance from the source to vertex u and 9 is the current interest from the source to vertex v, what is the result of necuting the command relative, vol.  a. Notes of the above.  b. used in designed to 7   X  c. used in withought.  d. All of the above.  b. used in charged.  The correct answer is interest.  The correct answer is interest.  The correct answer is vol.  Suppress and 150.  Dipose's algorithm allows negotive weight edges.  The correct answer is "Teley".
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Cent the vertices above, when it requested the current distance from the course to vertice, whall it the record of vertices,  a. A fiver of the above.  b. a dist carefulaged To *  c. out a sever the above.  c. out of vertices,  description of the above.  b. and careful is accordance.  The context above its accordance.  Context  Contex
Control to work or above, where 3 represents the current discrete from the source to worker, where is the each of executing the command rejectory.  In the control of the observe.  In the con
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Content to service above, where 3 represents the current distance from the course to vertex v. and 9 is the current interest distance from the course of vertex v.  - a fine of the element of the current distance from the current vertex v.  - a fine vertex vertex v.  - a v. di verte
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Question 6	
Correct	
1.00 points out of 1.00	
What is the time complexity of Dijkstra's algorithm when a priority queue with a O(Ig n) increaseKey() function is used?	
○ a. O(n)	
. c. O(V <sup>2</sup> )	
○ d. O(n lg n)	
e. None of the above.	
Your answer is correct.	
The correct answer is:	
O(E lg V)	
Question 7	
Incorrect	
0.00 points out of 1.00	
Charles and the second	authoration in such a south?
Given a weighted graph where weights of all edges are unique (no two edges have same weights), there is always a unique shortest path from a source to de	sunaturn in such a graph:
® True ★	
□ False	
The correct answer is 'False'.	
Question 8	
Incorrect	
0.00 points out of 1.00	
In a weighted graph, assume that the shortest path from a source s to a destination t is correctly calculated using Dijkstra's algorithm. If we increase the weighted	th of every edge by 1, the shortest path always remains the same.
® True ★	
O False	
The correct answer is 'False'.	
THE COLLECT GISWELDS LABSE.	
Question 9	
Correct	
1.00 points out of 1.00	
What type of algorithm is Floyd-Warshall?	
○ a. Greedy	
b. Divide and Conquer	
C. Randomized Monte Carlo	
e. None of the above	
Your answer is correct.	
The correct answer is:	
Dynamic Programming	
Question 10	
Correct	
1.00 points out of 1.00	
Why are negative weight edges a problem with shortest paths algorithms?	
■ a. They can be part of a negative-weight cycle, which makes the concept of distance meaningless.      ✓	
○ b. All of the above.	
. In the context of a topological sort, they imply that one can go backwards in time, which isn't true in real life.	
O d. None of the above.	
e. A graph with negative weight edges can only be have distances calculated with the Bellman-Ford algorithm.	
- C. A graph man negative weight edges can only be have distances calculated with the beliman-rold algorithm.	
Your answer is correct.	
The correct answer is:	
The correct answer is:  They can be part of a negative-weight cycle, which makes the concept of distance meaningless.	