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NPTEL

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Courses » Programming, Data structures and Algorithms using C

Announcements **Course** Ask a Question Progress

Unit 9 - Week 8 : Hash Tables & Graph Algorithms



Course outline

Assignment0

Week 1: Basic Programming Constructs

Week 2: Arrays, Pointers and Strings

Week 3: Functions, Time complexity

Week 4: Sorting and Searching Algorithms

Week 5: Structures, Dynamic Memory Allocation and ADTs

Week 6: Stacks, Queues, Heaps, Trees and Graphs

Week 7: Greedy Algorithms and Dynamic Programming

Week 8 : Hash Tables & Graph Algorithms

Hash Tables

Graph Algorithms: Dijkstra's Algorithm and Prim's Algorithm

Quiz : Quiz 8

PA 8.1 - Checking Duplicates

Quiz 8

The due date for submitting this assignment has passed. **Due on 2018-04-04, 23:59 IST.** As per our records you have not submitted this assignment.

1) Consider the below graph: 1 point

How many MST does this graph have?

- 0
 1
 2
 3

No, the answer is incorrect.
Score: 0

Accepted Answers:

1

2) If MST is obtained using Prim's algorithm, what is the order in which the edges are added to the MST? 1 point

- B-E;F-E;C-D;A-F;D-E
 B-E;F-E;A-F;C-D;D-E
 B-E;F-E;A-F;D-E;C-D
 B-E;F-E;D-E;A-F;C-D

No, the answer is incorrect.
Score: 0

Accepted Answers:

B-E;F-E;A-F;D-E;C-D

3) What is the total cost of the edges added to the MST? 1 point

- 9
 19
 29
 39

No, the answer is incorrect.
Score: 0

Accepted Answers:

19

PA 8.2 - Application of Hashing

PA 8.3 - Dijkstra's Shortest Path

PA 8.4 - Minimum Spanning Tree (Prims)

Week 8 - Feedback

Quiz 8 Solutions

Week 9 : Graph Traversal, Articulation Points, File I/O, Modular programming

Help and FAQ

Interactive session with students

4) Let the keys 75,12,8,62,83,91,15 be hashed to a hash table of size 10 using a hash function $h(x) = x \bmod 10$. How many collisions shall occur during the hashing process? **1 point**

- 0
 1
 2
 3

No, the answer is incorrect.

Score: 0

Accepted Answers:

2

5) Which of the following pairs of keys hash to the same location if a hash table of size 10 is used and the hash function used is given by $h(x) = x \bmod 5$? **1 point**

- 11 and 15
 12 and 37
 16 and 42
 25 and 89

No, the answer is incorrect.

Score: 0

Accepted Answers:

12 and 37

6) There is a hash table with 20 slots. 100 elements are stored onto this hash table. Its load factor is: **1 point**

- 120
 80
 2000
 5

No, the answer is incorrect.

Score: 0

Accepted Answers:

5

7) If the keys 25,17,82,65,18,9,120 are hashed in the given order onto a hash table of size 7 with linear probing as a collision resolution technique and the hash function is given by $h(x) = x \bmod 7$, What will be the final contents of the hash table (in the increasing order of its indices) ? **1 point**

- 9,17,25,18,82,65,120
 9,65,25,82,18,120,17
 17,65,9,18,82,25,120
 9,120,65,17,25,82,18

No, the answer is incorrect.

Score: 0

Accepted Answers:

9,120,65,17,25,82,18

8) If chaining is used as a collision resolution technique for the above question, What is the average chain length? **1 point**

- 0.5



- 1
- 1.5
- 2

No, the answer is incorrect.

Score: 0

Accepted Answers:

1

- 9) How many spanning trees are possible for the below unweighted and undirected simple graph? 1 point

- 1
- 2
- 3
- 4

No, the answer is incorrect.

Score: 0

Accepted Answers:

3

- 10) How many spanning trees are possible for an unweighted and undirected simple cycle containing 'n' vertices? 1 point

- 0.25 n
- 0.5 n
- n
- 2 n

No, the answer is incorrect.

Score: 0

Accepted Answers:

n



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