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Test Name:	**MBA: Data Types/Structures**
Taken On:	1 Aug 2019 16:59:47 PDT
Time Taken:	9 min 55 sec/ 10 min
Work Experience:	1 years
Invited by:	Jeff
Invited on:	1 Aug 2019 16:53:42 PDT

94.4%

85/90

scored in **MBA: Data Types/Structures** in 9 min 55 sec on 1 Aug 2019 16:59:47 PDT

Tags Score:

- AVL Trees 5/5
- Arrays 5/5
- Binary Search Trees 10/10
- Binary Trees 5/5
- Data Structures 85/90
- Data Types 65/70
- Essential 85/90
- Hash Table 0/5
- Linked Lists 30/30
- List 5/5
- Set 5/5
- Time Complexity 5/5
- queue 5/5

Recruiter/Team Comments:

No Comments.

Question Description	Time Taken	Score	Status
Q1 Which of the following Abstract Data Types is best suited for keeping track of o > **Multiple Choice**	22 sec	5/ 5	✓
Q2 How is a set different from a list? > **Multiple Choice**	13 sec	5/ 5	✓
Q3 What is the difference between a static array and a dynamic array? > **Multiple Choice**	9 sec	5/ 5	✓
Q4 There are no NULL pointers in: > **Multiple Choice**	17 sec	5/ 5	✓
Q5 Given a hash table with n key-value pairs, what is the time complexity to look u > **Multiple Choice**	6 sec	0/ 5	✗
Q6 Which of the following abstract data types requires that data be added and remov	9 sec	5/ 5	✓

	› Multiple Choice			
Q7	Which of the following abstract data types requires that data be added and remov › Multiple Choice	6 sec	5/ 5	✓
Q8	Select all of the following which are valid binary trees. › Multiple Choice	13 sec	5/ 5	✓
Q9	A _____ is an abstract data type made up of interconnected nodes, with no cle › Multiple Choice		5/ 5	✓
Q10	Given the following singly linked list: › Sentence Completion	44 sec	10/ 10	✓
Q11	Given the following doubly linked list: › Sentence Completion	47 sec	10/ 10	✓
Q12	Which of the following describes a Binary Search Tree? › Multiple Choice	7 sec	5/ 5	✓
Q13	Choose the Appropriate Data Structure › Multiple Choice	28 sec	5/ 5	✓
Q14	Time Complexity › Multiple Choice	23 sec	5/ 5	✓
Q15	Time Complexity: Linked List › Multiple Choice	31 sec	5/ 5	✓
Q16	AVL Tree › Multiple Choice	4 sec	5/ 5	✓

QUESTION 1

✓ Correct Answer

Score 5

Multiple Choice | Data Structures | Data Types | Essential

QUESTION DESCRIPTION

Which of the following Abstract Data Types is best suited for keeping track of ordered values?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ○ Hash Map
- ○ Graph
- ○ Set
- ✓ ● List

No Comments

QUESTION 2

Correct Answer

Score 5

Multiple Choice | Data Structures | Data Types | Set | List | Essential

QUESTION DESCRIPTION

How is a **set** different from a **list**?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Set: non-unique values & guaranteed order List: unique values & no guaranteed order
- ✓ Set: unique values & no guaranteed order List: non-unique values & guaranteed order
- Set: non-unique values & no guaranteed order List: unique values & guaranteed order
- A list and a set are interchangeable.

No Comments

QUESTION 3

Correct Answer

Score 5

Multiple Choice | Data Structures | Data Types | Arrays | Essential

QUESTION DESCRIPTION

What is the difference between a **static array** and a **dynamic array**?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ✓ A static array has a fixed size. A dynamic array will increase in size to accommodate an increase in stored values.
- The values in a static array cannot be re-assigned, but the values in a dynamic array can.
- Static arrays can only store data of one type. Dynamic arrays can store data of multiple types.
- A static array is an abstract data type, and a dynamic array is a data structure.

No Comments

QUESTION 4

Correct Answer

Score 5

Multiple Choice | Data Structures | Data Types | Linked Lists | Essential

QUESTION DESCRIPTION

There are **no** NULL pointers in:

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Singly linked list
- Linear doubly linked list
- ✓ Circularly linked list
- None of the above

No Comments

QUESTION 5

Wrong Answer

Score 0

Multiple Choice | Data Structures | Data Types | Hash Table | Essential

QUESTION DESCRIPTION

Given a **hash table** with **n** key-value pairs, what is the time complexity to look up value by its key? (Assume there are no collisions).

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- O(n)
- ✓ O(1)
- $O(n^2)$
- O(log(n))

No Comments

QUESTION 6

Correct Answer

Score 5

Multiple Choice | Data Structures | Data Types | Essential

QUESTION DESCRIPTION

Which of the following abstract data types requires that data be added and removed in a **First-in-First-out** manner.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Graph
- List
- Set
- ✓ Queue

No Comments

QUESTION 7

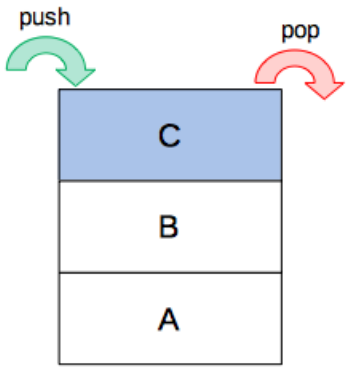
Correct Answer

Score 5

Multiple Choice | Data Types | Data Structures | Essential

QUESTION DESCRIPTION

Which of the following abstract data types requires that data be added and removed as shown in the image below?



CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Set
- Graph
- ✓ Stack
- Queue

No Comments

QUESTION 8

Multiple Choice | Data Structures | Data Types | Binary Trees | Essential

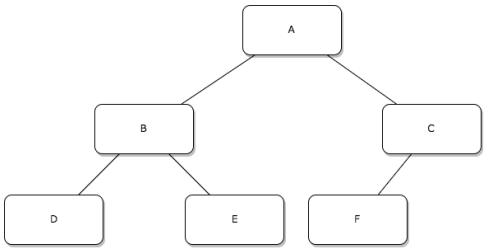
Correct Answer

Score 5

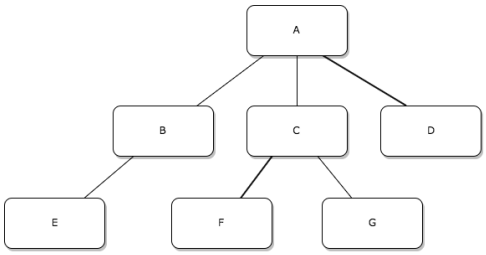
QUESTION DESCRIPTION

Select all of the following which are valid **binary trees**.

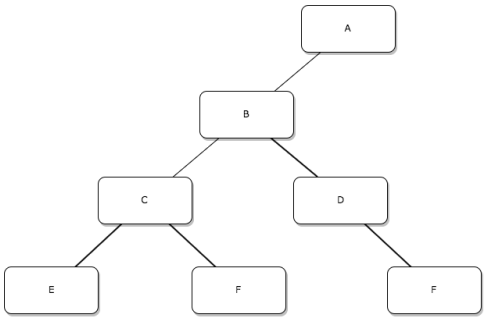
A.



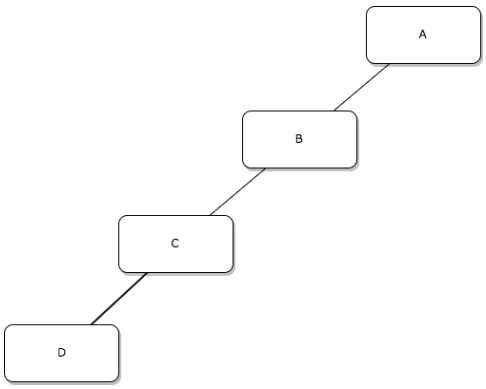
B.



C.



D.



CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- ✓ A.
- B.
- ✓ C.
- ✓ D.

No Comments

QUESTION 9

Correct Answer

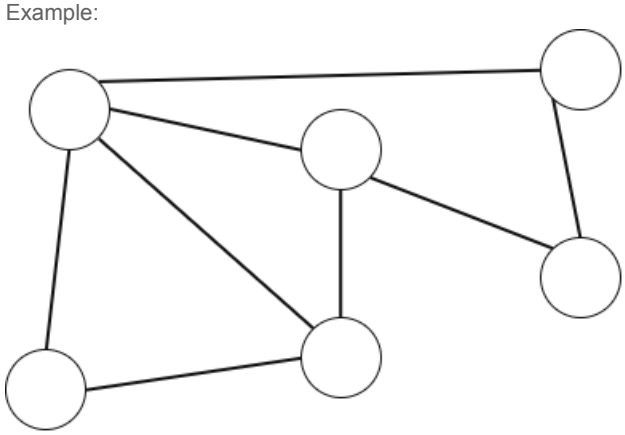
Score 5

Multiple Choice | Data Structures | Data Types | Essential

QUESTION DESCRIPTION

A _____ is an abstract data type made up of interconnected nodes, with no clear parent-child relationship.

Example:



CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- Tree
- ✓ Graph
- Linked list
- Set

No Comments

QUESTION 10

Correct Answer

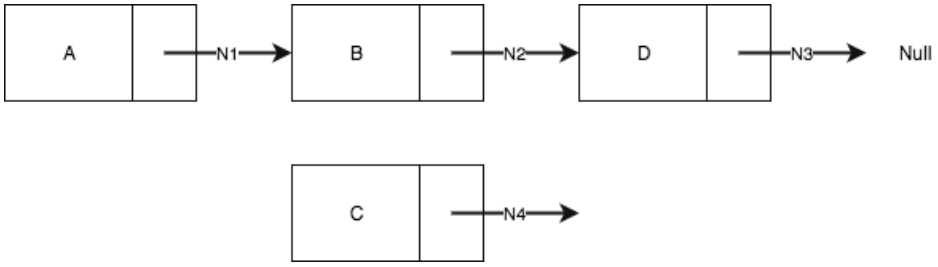
Score 10

Sentence Completion | Data Structures | Data Types | Linked Lists | Essential

QUESTION DESCRIPTION

Problem Statement

Given the following **singly linked list**:



Options:

- N1
- N2
- N3
- N4

Complete String

In order to insert C after B, {blank} needs to point at C, and {blank} needs to point at D.

INTERNAL NOTES

10

CANDIDATE ANSWER

In order to insert C after B, **n2** needs to point at C, and **n4** needs to point at D.

No Comments

QUESTION 11

Correct Answer

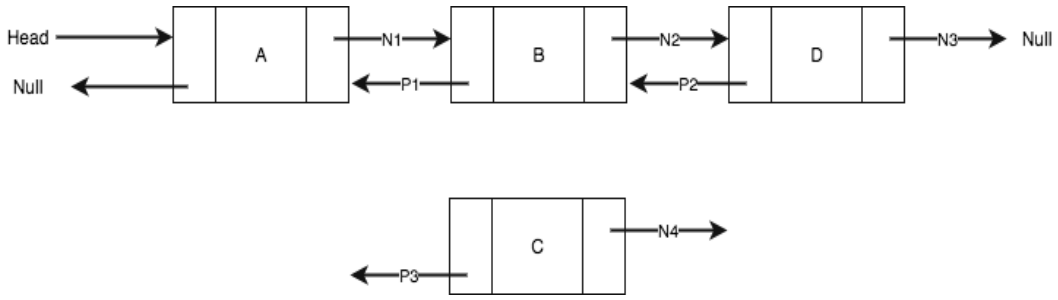
Score 10

Sentence Completion | Data Structures | Data Types | Linked Lists | Essential

QUESTION DESCRIPTION

Problem Statement

Given the following **doubly linked list**:



Complete String

In order to insert C after B: {blank} and {blank} need changed to point at C. {blank} needs changed to point at D. {blank} needs changed to point at B.

INTERNAL NOTES

10

CANDIDATE ANSWER

In order to insert C after B:
n2 ✓ and p2 ✓ need changed to point at C.
n4 ✓ needs changed to point at D.
p3 ✓ needs changed to point at B.

No Comments

QUESTION 12

Correct Answer

Score 5

Multiple Choice | Data Structures | Data Types | Binary Search Trees | Essential

QUESTION DESCRIPTION

Which of the following describes a **Binary Search Tree**?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [x] Every node on the left sub-tree must be less-than or equal to the current node. Every node on the right sub-tree must be greater-than the current node.
- [ ] Each node in the tree can have at most 3 child-nodes.
- [ ] Each node can have at most 2 child-nodes. The value of the nodes not relevant.
- [ ] The height of each sub-tree must be the same.

No Comments

QUESTION 13

Correct Answer

Score 5

Choose the Appropriate Data Structure › Multiple Choice | Data Structures | Essential

QUESTION DESCRIPTION

Which of the following data structures would be the **most appropriate** to model friendships on a social network like Facebook? (Remember the relationship between two users is ***bidirectional*** — you're my friend and I am yours.)

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- [ ] linked list
- [ ] set
- [x] undirected graph
- [ ] directed graph

No Comments

QUESTION 14

Correct Answer

Score 5

Time Complexity › Multiple Choice

Data Structures | Binary Search Trees | Essential

QUESTION DESCRIPTION

What is the asymptotic run time to perform the following actions on a Binary Search Tree:
Traverse all nodes and log each node **in order**.

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- O(n*log(n))
- O(n^2)
- ✓ O(n)
- O(log(n))

No Comments

QUESTION 15

Correct Answer

Score 5

Time Complexity: Linked List › Multiple Choice

Time Complexity | Data Structures | Linked Lists | Essential | queue

QUESTION DESCRIPTION

A queue is implemented using a linked list (with front and end pointers). What is the time complexity to **lookup an element** in this queue?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- O(1)
- O(log(n))
- ✓ O(n)
- O(n*log(n))

No Comments

QUESTION 16

Correct Answer

Score 5

AVL Tree › Multiple Choice AVL Trees Data Structures Essential

QUESTION DESCRIPTION

Which of the following best defines an **AVL Tree**?

CANDIDATE ANSWER

Options: (Expected answer indicated with a tick)

- A perfectly balanced binary tree.
- ✓ A binary search tree where each sub-tree differs in height by a maximum of 1.
- A tree with a single node.
- A balanced N-ary Tree.

No Comments

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