11:24 38%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

Question # 10 of 10 (Start time: 11:24:38 AM, 20 July 2023)

Which of the following properties are satisfied by Equivalence relationship?

Select the correct option

- ○ Only Symmetric and transitive
- ○ Reflexive , Symmetric and Transitive ✓
- ○ Only Reflexive and Transitive
- ○ Only Reflexive and Symmetric

Question # 9 of 10 (Start time: 11:23:32 AM, 20 July 2023)

Which of the following is NOT an implementation of Table ADT?

Select the correct option

- Stack
- Skip List
- Sorted Sequential Array
- Linked List

11:22 38%
Quiz
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CS301 - Data Structures (Quiz No. 4) Quiz Sta

Question # 8 of 10 (Start time: 11:22:33 AM, 20 July 2023)

The scenario "If Ali is brother of Asif and Asif is brother of Uzma then Ali is brother of Uzma" is the example of _____

Select the correct option

- Transitive
- Identity
- Reflexive
- Symmetry

Click to Save Answ

11:21 39%
Quiz
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BC230206978: NIDA HABIB

CS301 - Data Structures (Quiz No. 4)

Question # 7 of 10 (Start time: 11:20:23 AM, 20 July 2023)

Which of the following heap method increase the value of key at position 'p' by the amount 'delta'?

Select the correct option

- decreaseKey(p,delta)
- remove(p,delta)
- increaseKey(p,delta)
- percolateDown(p,delta)

Click to S

11:20 39%

Quiz
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BC230206978: NIDA HABIB

Time Left 80 sec(s)

CS301 - Data Structures (Quiz No. 4)

Quiz Start Time: 11:12 AM, 20 July 2023

Question # 7 of 10 (Start time: 11:20:23 AM, 20 July 2023)

Total Marks: 1

Which of the following heap method increase the value of key at position 'p' by the amount 'delta'?

Select the correct option

- decreaseKey(p,delta)
- remove(p,delta)
- increaseKey(p,delta)
- percolateDown(p,delta)

Click to Save Answer & Move to Next Question

11:19 39%
Quiz
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CS301 - Data Structures (Quiz No. 4)

Question # 6 of 10 (Start time: 11:19:18 AM, 20 July 2023)

Given the values are the array representation of heap;
12 23 26 31 34 44 56 64 78 100
What is the 5th smallest element in the given heap?

Select the correct option

- ○ 44
- ○ 56
- ○ 34 ✓
- ○ 31

Question # 5 of 10 (Start time: 11:18:13 AM, 20 July 2023)

In deletion, _____ method reorganizes the min heap.

Select the correct option

○	DecreaseKey
○	IncreaseKey
○	PercolateDown ✓
○	Percolate_Below

11:17 39%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

CS301 - Data Structures (Quiz No. 4) Quiz Start Time: 11:12 A

Question # 4 of 10 (Start time: 11:17:05 AM, 20 July 2023)

If we want to find 3rd minimum element from an array of elements, then after applying buildHeap method, how many times dele will be called ?

Select the correct option

- 3
- 4
- 1
- 2

Click to Save Answer & Move to N

11:15 39%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

CS301 - Data Structures (Quiz No. 4)

Question # 3 of 10 (Start time: 11:15:50 AM, 20 July 2023)

In heap's percolateDown method, why do we start our iterations from n/2 instead of n?

Select the correct option

- nth node key is always largest
- Because nth node is a leaf node and it doesn't have any left & right child to get s
- Because n node iterations create complexity
- nth node contains null

11:14 39%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

Question # 2 of 10 (Start time: 11:14:20 AM, 20 July 2023)

For a perfect binary tree of height h, having N nodes, the sum of heights of nodes is _

Select the correct option

- N − (h − 1)
- N − 1 + h
- N − h − 1
- N − 1

11:12 40%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

CS301 - Data Structures (Quiz No. 4)

Question # 1 of 10 (Start time: 11:12:36 AM, 20 July 2023)

The percolateDown procedure will move the smaller value____ and bigger value__

Select the correct option

- down,up
- left,right
- up,down
- right,left

11:10 40%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

CS301 - Data Structures (Quiz No. 4)

Question # 10 of 10 (Start time: 11:10:03 AM, 20 July 2023)

What is the time complexity of binary search with iteration?

Select the correct option

- O(nlogn)
- O(n2)
- O(logn) ✓
- O(n)

11:09 40%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

CS301 - Data Structures (Quiz No. 4)

Question # 9 of 10 (Start time: 11:08:58 AM, 20 July 2023)

One requirement to construct a max heap tree is _____.

Select the correct option

- The tree must be binary search three
- The tree must be complete binary tree
- The tree must be strictly binary tree
- The tree must be AVL tree

11:08 40%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

BC230206977: AYESHA ZAFAR

CS301 - Data Structures (Quiz No. 4)

Question # 8 of 10 (Start time: 11:07:55 AM, 20 July 2023)

Heap can be used to implement

Select the correct option

- Stack
- Linked list
- Priority Queue
- Queue

01 - Data Structures (Quiz No. 4)

stion # 7 of 10 (Start time: 11:06:21 AM, 20 July 2023)

heap's percolateDown method, why do we start our iterations from n/2 instead of n?

ct the correct option

- nth node contains null
- nth node key is always largest
- Because n node iterations create complexity
- Because nth node is a leaf node and it doesn't have any left & right child to get sorted

11:04 41%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

:S301 - Data Structures (Quiz No. 4)

uestion # 6 of 10 (Start time: 11:04:54 AM, 20 July 2023)

In deletion, _____ method reorganizes the min heap.

elect the correct option

- IncreaseKey
- PercolateDown
- DecreaseKey
- Percolate_Below

uestion # 5 of 10 (Start time: 11:03:39 AM, 20 July 2023)

Binary Search can be categorized into which of the following?

elect the correct option

- ○ Greedy algorithm
- ○ Dynamic programming
- ○ Brute Force technique
- ○ Divide and conquer ✓

11:02 41%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

:30206977: AYESHA ZAFAR

:01 - Data Structures (Quiz No. 4)

stion # 4 of 10 (Start time: 11:02:27 AM, 20 July 2023)

1990,Bill Pugh proposed an enhancement on linked lists and the new data structure was termed as

ct the correct option

- Enhanced Linked list
- Skip list
- Tree List
- Fixed list

Click to

11:01 41%

Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

BC230206977: AYESHA ZAFAR

Time Left 84 sec(s)

CS301 - Data Structures (Quiz No. 4)

Quiz Start Time: 10:58 AM, 20 July 2023

Question # 3 of 10 (Start time: 11:01:08 AM, 20 July 2023)

Total Marks: 1

To remove any node in the min heap other than the root node, the remove method first calls the _____ method before calling deleteMin().

Select the correct option

Reload Math Equations

- increaseKey(p,delta)
- remove(p,delta)
- increaseKey(p,delta)
- percolateDown(p,delta)

Click to Save Answer & Move to Next Question

11:00 41%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

CS301 - Data Structures (Quiz No. 4)

Question # 2 of 10 (Start time: 11:00:12 AM, 20 July 2023)

Which one of the following is NOT the property of equivalence relation?

Select the correct option

- Associative
- Transitive
- Symmetric
- Reflexive

10:58 41%
Quiz
https://vulms.vu.edu.pk/Quiz/QuizQuestio

CS301 - Data Structures (Quiz No. 4)

Question # 1 of 10 (Start time: 10:58:32 AM, 20 July 2023)

Given the values are the array representation of heap;
12 23 26 31 34 44 56 64 78 100
What is the 5th smallest element in the given heap?

Select the correct option

- 34
- 56
- 31
- 44

11:25

which of the following pro 1 of 1

Question No:6 **(Marks:1)** **Vu-Topper RM**
If we want to find 3rd minimum element from an array of elements, then after applying buildHeap method, how many times deleteMin method will be called ?
1
2
3
4

Question No:7 **(Marks:1)** **Vu-Topper RM**
Binary Search can be categorized into which of the following?
Divide and conquer.
Greedy algorithm.
Dynamic programming.
Brute force technique.

Question No:8 **(Marks:1)** **Vu-Topper RM**
Which of the following properties are satisfied by Equivalence relationship?
Reflexive, symmetric
Reflexive, transitive
Symmetric, transitive
Reflexive, symmetric and transitive

Question No:9 **(Marks:1)** **Vu-Topper RM**
The main reason of using heap in priority queue is
Improve performance
code is readable
less code
heap can't be used in priority queues.

Question No:10 **(Marks:1)** **Vu-Topper RM**
A table consists of several columns, known as
Field.
File.
Entities Page 408
Folder

pro processes provides

q w e r t y u i o p
a s d f g h j k l
z x c v b n m
?123 , .

11:21

Heap is not empty

Question No:28 (Marks:1) Vu-Topper RM
What is the best definition of a collision in a hash table?
Two entries are identical except for their keys.
Two entries with different keys have the same exact hash value.
(page 464)

Question No:29 (Marks:1) Vu-Topper RM
Heap can be used to implement
Stack
Linked list
Priority queue

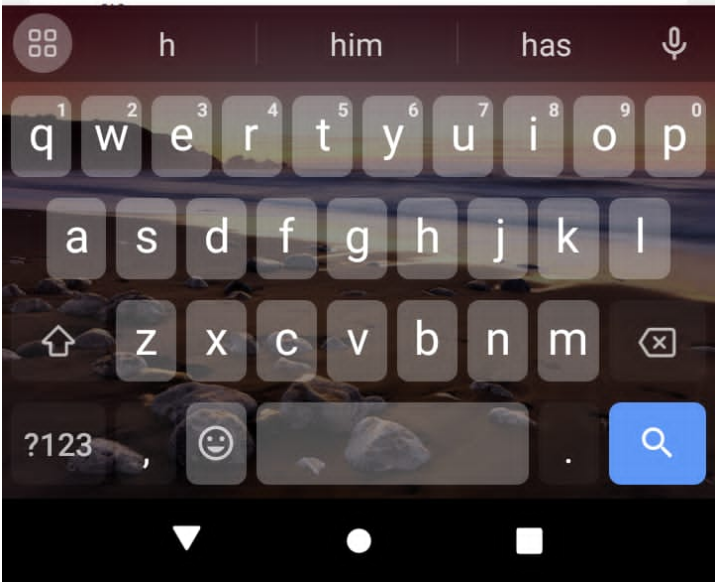
Question No:30 (Marks:1) Vu-Topper RM
Which one of the following is NOT true regarding the skip list?
Each list Si contains the special keys + infinity and - infinity.
List S0 contains the keys of S in non-decreasing order.
List Sh contains only the n special keys. Page 446

Question No:31 (Marks:1) Vu-Topper RM
Which of the following heap method lowers the value of key at position 'p' by the amount 'delta'?
increaseKey(p,delta)
preculateDown(p,delta)

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Question No:32 (Marks:1) Vu-Topper RM
Which of the following statement is NOT correct regarding Table ADT?
In a table, the type of information in columns may be different.
A table consists of several columns, known as entities.
The row of a table is called a record.
A major use of table is in databases where we build and use tables for keeping information.

Question No:33 (Marks:1) Vu-Topper RM
The total number of nodes on 10th level of a perfect binary tree are :
256



11:20

given the values Nid online 1 of 2

Question No:1 **(Marks:1)** **Vu-Topper RM**
Suppose a hash function returns 6 for the given value. At which index of array the value will be saved?
2
4
6
8

Question No:2 **(Marks:1)** **Vu-Topper RM**
What is a skip list?
A linked list with size value in nodes
A linked list that allows slower search within an ordered sequence.
A linked list that allows faster search within an ordered sequence.
A tree which is in the form of linked list

Question No:3 **(Marks:1)** **Vu-Topper RM**
Suppose there is an image segmented into pixels. Each pixel has _ neighbour(s).
0
8
10
16

Question No:4 **(Marks:1)** **Vu-Topper RM**
Given the values are the array representation of heap; 12 23 26 31 34 44 56 64 78 100 If we perform 4 deleteMin operations, the last element deleted is_____.
31
34
44
56

Question No:5 **(Marks:1)** **Vu-Topper RM**
Suppose there is an image of 7 * 7. now we will have matrix of _rows and---columns.
7, 7
49, 49
100, 100
8, 8
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Question No:6 **(Marks:1)** **Vu-Topper RM**
If we want to find 3rd minimum element from an array of elements, then after applying buildHeap method, how many times deleteMin method will be called ?
1
2
3
4

Question No:7 **(Marks:1)** **Vu-Topper RM**
Binary Search can be categorized into which of the following?
Divide and conquer.
Greedy algorithm.
Dynamic programming.

Logn*n

Question No:13 **(Marks:1)** **Vu-Topper RM**
In 1990,Bill Pugh proposed an enhancement on linked lists and the new data structure was termed as
Skip-list
Linked List.
B-Tree.
Spelling checker.

Question No:14 **(Marks:1)** **Vu-Topper RM**
During the union by size method, all the array element initialized to -1 shows;
Tree is complete
Initial condition of tree
None of the
Every tree has two elements each.

Question No:15 **(Marks:1)** **Vu-Topper RM**
What is the time complexity of binary search with iteration?
O(nlogn)
O(n2)
O(n)
O(logn)

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Question No:16 **(Marks:1)** **Vu-Topper RM**
Given the values are the array representation of heap; 12 23 26 31 34 44 56 64 78 100
What is the 5th smallest element in the given heap?
31
34
44
57

Question No:17 **(Marks:1)** **Vu-Topper RM**
Which of the following possible operations are performed on Table ADT?
Insert, remove
Find, remove.
Insert, find.
Insert, Find, Remove.

Question No:18 **(Marks:1)** **Vu-Topper RM**
The array in binary search is sub divided _____.
Once
Twice
N time
Until a sublist is no more divisible

Question No:19 **(Marks:1)** **Vu-Topper RM**
If a tree has 20 edges/links, then the total number of nodes in the tree will be :
19
20
21
None of the given

Question No:20 **(Marks:1)** **Vu-Topper RM**
A hash function returns a _____ value.
Integer

Question No:75 **(Marks:1)** **Vu-Topper RM**
If a tree has 50 nodes, then the total edges/links in the tree will be :
55
51
50
49

Question No:76 **(Marks:1)** **Vu-Topper RM**
If the height of a perfect binary tree is 4. What will be the total number of nodes in it?
15
16
31
32

Question No:77 **(Marks:1)** **Vu-Topper RM**
If we want to find 3rd minimum element from an array of elements, then after applying buildHeap method, how many times deleteMin method will be called ?
1
2
3
4

Question No:78 **(Marks:1)** **Vu-Topper RM**
We can build a heap in _____ time.
Linear Page355
Exponential
Polynomial
None of the given options

Question No:79 **(Marks:1)** **Vu-Topper RM**
Which one of the following operations returns top value of the stack?
Push
Pop
Top Page53
First

wa want was

q w e r t y u i o p
a s d f g h j k l
z x c v b n m
?123 , .

11:15

Unsorted
Heterogeneous
Random

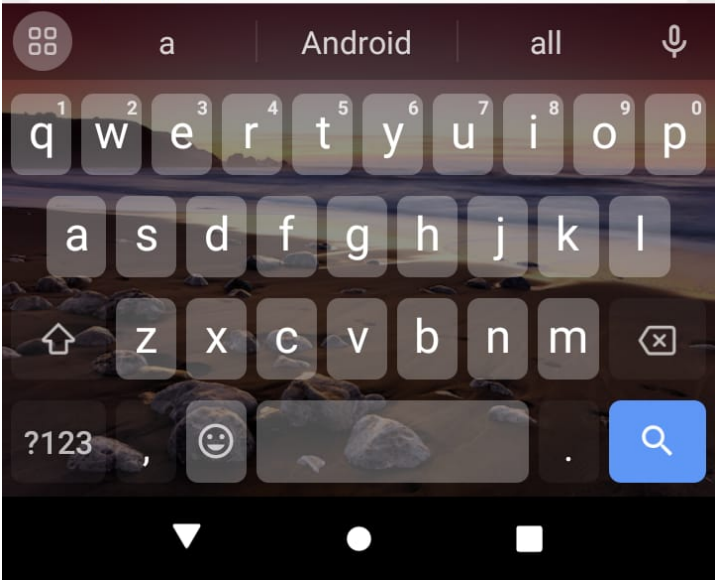
Question No:84 (Marks:1) Vu-Topper RM
Which of the following statement is true about dummy node of threaded binary tree?
This dummy node never has a value.
This dummy node has always some dummy value.
This dummy node has either no value or some dummy value.
This dummy node has always some integer value.

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Question No:85 (Marks:1) Vu-Topper RM
For a perfect binary tree of height h, having N nodes, the sum of heights of nodes is
N – (h – 1)
N – (h + 1) Page373
N – 1
N – 1 + h

Question No:86 (Marks:1) Vu-Topper RM
What is the best definition of a *collision* in a hash table?
Two entries are identical except for their keys.
Two entries with different data have the exact same key
Two entries with different keys have the same exact hash value.
Two entries with the exact same key have different hash values.

Question No:87 (Marks:1) Vu-Topper RM
Which formula is the best approximation for the depth of a heap with n nodes?
log (base 2) of n
he number of digits in n (base 10), e.g., 145 has three digits
The square root of n
n



11:11

what is the t 1 of 1

log2 n
Nlogn
Logn*n

Question No:13 (Marks:1) Vu-Topper RM
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Skip-list
Linked List.
B-Tree.
Spelling checker.

Question No:14 (Marks:1) Vu-Topper RM
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Every tree has two elements each.

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O(nlogn)
O(n2)
O(n)
O(logn)

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Question No:16 (Marks:1) Vu-Topper RM
Given the values are the array representation of heap; 12 23 26 31 34 44 56 64 78 100
What is the 5th smallest element in the given heap?
31
34
44
57

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q w e r t y u i o p
a s d f g h j k l
z x c v b n m
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