Question 1

Not yet answered

Marked out of 2.00

Flag question

Consider a hash table with 9 slots. The hash function is h(k) = k mod 9. The collisions are resolved by chaining. The following 9 keys are inserted in the order: 5, 28, 19, 15, 20, 33, 12, 17, 10. The maximum, minimum, and average chain lengths in the hash table, respectively, are

Select one:

- a. 3, 0, 1
- b. 4, 0, 1
- c. 3, 3, 3
- d. 3, 0, 2

Question 2

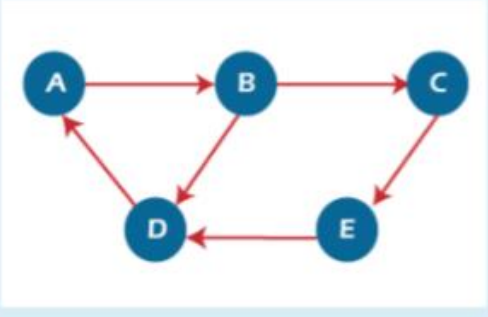
Not yet answered

Marked out of 2.00

Flag question

Represent the following graph using the adjacency graph representation technique. What will the row value for node B? Choose the correct answer.

Note: Solve the problem on the answer-sheet. The marks will be given if the solved problem answer matches the selected answer.



Select one:

- a. 1 0 1 0 0
- b. 0 0 0 1 1
- c. 0 0 1 1 0
- d. 0 0 1 0 1

Question 3

Not yet answered

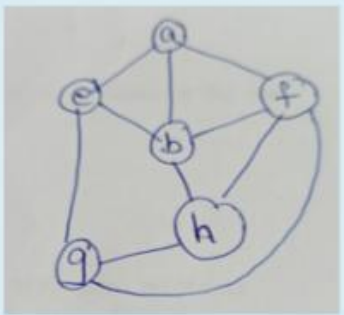
Marked out of 2.00

Flag question

Traverse the given graph using Dept first traversal technique.

Source node: a, Policy: ascending order of the node to be visited first

Note: Solve the problem on the answer-sheet. The marks will be given if the solved problem answer matches the answer filled here



Answer: abegfh

Question 4

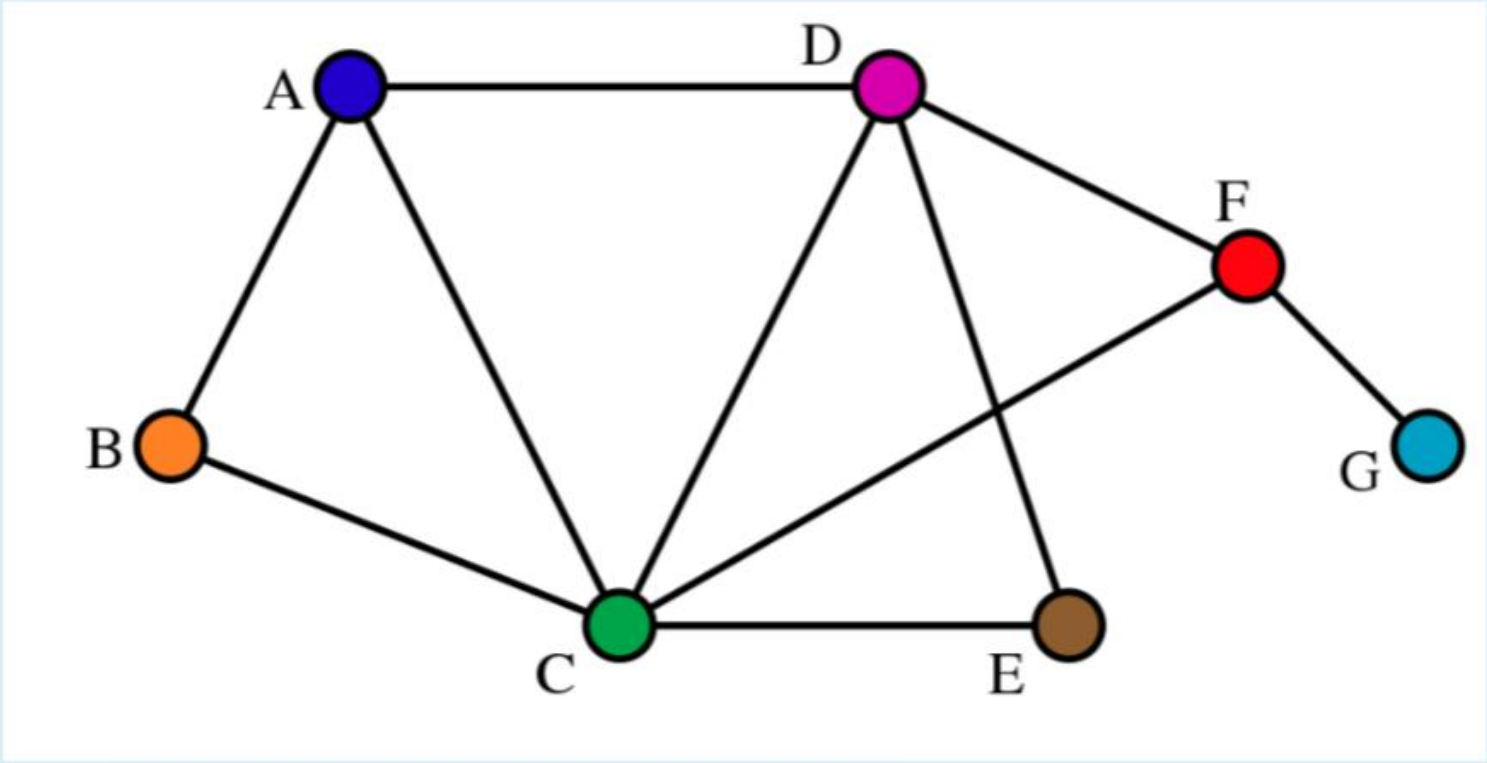
Not yet answered

Marked out of 2.00

Flag question

Traverse the given graph using Breadth first search technique. Source node A, Policy: descending order of the node

Note: Solve the problem on the answer-sheet. The marks will be given if the solved problem answer matches the answer filled here



Answer: ADCBFEG

Question 5

Not yet answered

Marked out of 2.00

Flag question

Suppose we are sorting an array of eight integers using heapsort, and we have just finished some heapify (either maxheapify or minheapify) operations. The array now looks like this: 16 14 15 10 12 27 28 How many heapify operations have been performed on root of heap?

Answer: 3

Question 6

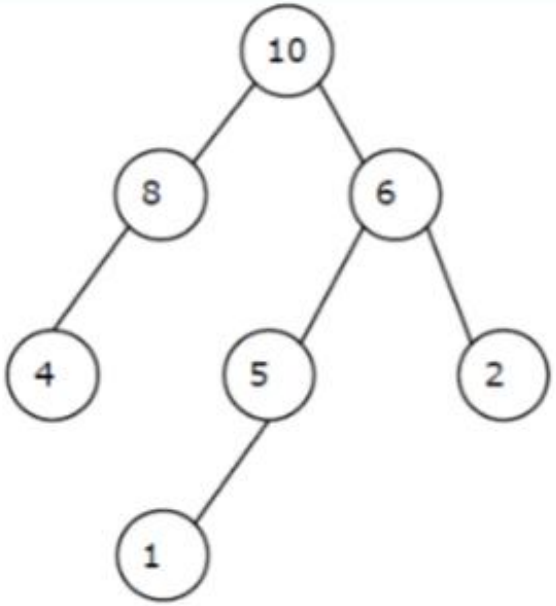
Not yet answered

Marked out of 2.00

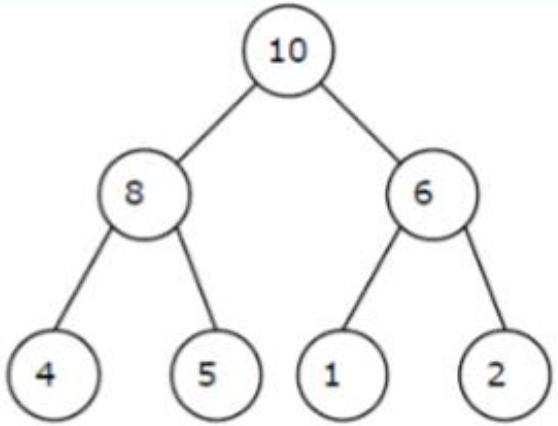
Flag question

A max-heap is a heap where the value of each parent is greater than or equal to the values of its children. Which of the following is a max-heap?

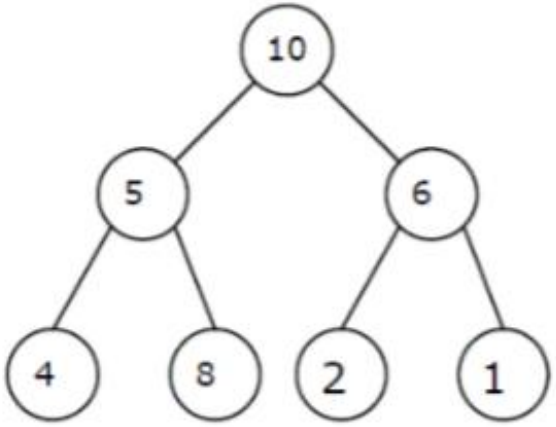
(A)



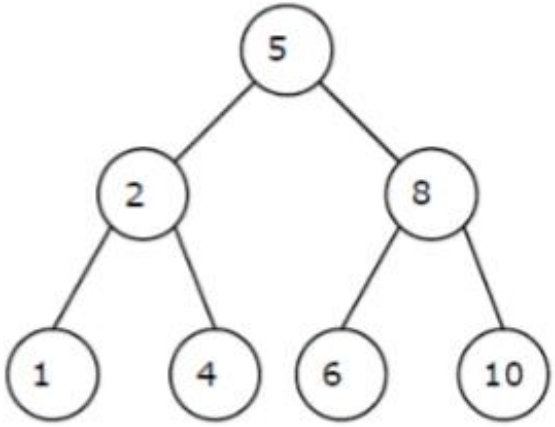
(B)



(C)



(D)



Answer: B

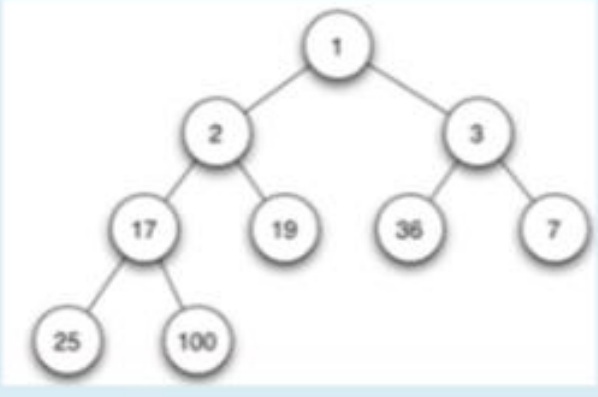
Question 7

Not yet answered

Marked out of 2.00

Flag question

If we implement heap as min-heap, deleting root node (value 1)from the heap. What would be the value of root node after second iteration if leaf node (value 100) is chosen to replace the root at start.



Answer: 2

Question 8

Not yet answered

Marked out of 2.00

Flag question

Consider a hash table of size 11 that uses open addressing with linear probing. Let h(k) = k mod 11 be the hash function used. A sequence of records with keys

43 36 92 87 11 4 71 13 14

is inserted into an initially empty hash table, the bins of which are indexed from 0 to 10. What is the index of the bin into which the last record is inserted?

Answer: 7

Question 9

Not yet answered

Marked out of 2.00

Flag question

Consider a hash table with 100 slots. Collisions are resolved using chaining. Assuming simple uniform hashing, what is the probability that the first 3 slots are unfilled after the first 3 insertions?

Select one:

- a. (99 * 98 * 97) / (100^3)
- b. (97 * 96 * 95) / (100^3)
- c. (97 * 97 * 97) / (100^3)
- d. (97 * 96 * 95) / (3! * (100)^3)