In data structures, what is the output of the following code assuming the input as {1,2,3,4,5}:

public class CLinkedlist {

         int n;

         CLinkedlist next;

         public CLinkedlist()

         {      n=0;

                next=null;

          }

         public void add(int n){}

        public void print()

         {  System.out.print(n+" ");}

        public static void main(String []aa)

         {  .......

                 CLinkedlist first=null,temp=null;

                       CLinkedlist li=new CLinkedlist();

                       int n=....

                       if(first==null)

                       {

                              li.add;

                              temp=li;

                              first=temp;

                       }

                       else

                       {

                              li.add;

                              temp.next=li;

                              temp=li;

                      }

                .......

                temp.next=first;

                while(first!=temp.next)

         {

               first.print();

               first=first.next;

         }



a.

1 2 3 4 5



b.

1 2 3 4



c.

No output



d.

Compilation error

[Clear my choice](https://getcertified.ramco.com/mod/quiz/attempt.php?attempt=225&cmid=188)

Question **2**

Answer saved

Marked out of 1.00

Flag question

1. Question text

In Data Structures, you are working on Arrays. You are given a Pseudocode that implements various operations on the given array. If you are required to execute the following pseudocode in a programming language, then what will be the output?

**Pseudocode**

DECLARE arr : ARRAY[0,8] of { 2, 4, 7, 10, 14, 27, 39, 52, 67 }

lo = 0

hi = 8

k=52

count = 0

WHILE lo < hi

       count = count + 1

       m=(lo + hi)/2

       IF arr[m]==k

              BREAK

       ELSE IF arr[m]<k

              lo = m + 1

       ELSE

              hi = m - 1

       ENDIF

ENDWHILE

PRINT count



a.

2



b.

3



c.

4



d.

5

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Question **3**

Answer saved

Marked out of 1.00

Flag question

1. Question text

In Data structures, what is the average case complexity analysis for the following code?

**Code:**

public void sort(int[] arr) {

      boolean swapped = true;

      int j = 0;

      int tmp;

      while (swapped) {

            swapped = false;

            j++;

            for (int i = 0; i < arr.length - j; i++) {

                  if (arr[i] > arr[i + 1]) {

                        tmp = arr[i];

                        arr[i] = arr[i + 1];

                        arr[i + 1] = tmp;

                        swapped = true;

                  }

            }

      }

}



a.

O(N^2)



b.

O(N)



c.

O(NlogN)



d.

O(logN)

[Clear my choice](https://getcertified.ramco.com/mod/quiz/attempt.php?attempt=225&cmid=188)

Question **4**

Answer saved

Marked out of 1.00

Flag question

1. Question text

What is the postfix notation obtained from the following tree?

**Tree:**



a.

8, 5, 9, 7, 1, 12, 2, 4, 11, 3



b.

8, 5, 4, 9, 7, 11, 1, 12, 3, 2



c.

9, 1, 2, 12, 7, 5, 3, 11, 4, 8 



d.

None of these

[Clear my choice](https://getcertified.ramco.com/mod/quiz/attempt.php?attempt=225&cmid=188)

Question **5**

Answer saved

Marked out of 1.00

Flag question

1. Question text

In data structures, if the input stack is *[1, 2, 3, 4, 5]*, then what is the output of the following code?

**Code:**

void hacker(Stack S, int n,int c=0)

{

if (S is empty || c == n)

        return;

character x = S.top();

S.pop();

hacker(S, n, c+1);

if (c != n/2)

        S.push(x);

}



a.

1 3 4 5



b.

1 2 4 5



c.

1 2 3 4



d.

2 3 4 5

[Clear my choice](https://getcertified.ramco.com/mod/quiz/attempt.php?attempt=225&cmid=188)

Question **6**

Answer saved

Marked out of 1.00

Flag question

1. Question text

Which of the following options will you use to replace **//CODE1**in the provided code?

**Code**

func hacker(int hack[], int n, int a[])

    STACK st

    push 0 into st

    a[0] = 1

    for i=1 to n

      while (st is not empty && hack[top of st] <= hack[i])

            st.pop()

      a[i] = //Code1

      st.push(i)



a.

(st.empty()) ? (i + 1) : (i - st.top());



b.

  (st.top()) ? (i + 1) : (i - st.empty());



c.

  (st.top()) ? (i + 1) : (i - st.top());



d.

(st.pop()) ? (i + 1) : (i - st.top());

[Clear my choice](https://getcertified.ramco.com/mod/quiz/attempt.php?attempt=225&cmid=188)

Question **7**

Not yet answered

Marked out of 1.00

Flag question

1. Question text

Alice has two non-empty linked lists representing two non-negative integers. The digits are stored in reverse order, and each node contains a single digit. Alice tried to implement a solution by adding two numbers and returning the sum as a linked list. She has written the following pseudocode to solve the problem.

**Note:** You may assume that the two numbers do not contain any leading zero, except the number 0.

**Pseudocode:**

Initialize current node to dummy head of the returning list

Initialize carry to 0

Initialize p and q to head of l1 and l2 respectively

Loop through lists l1 and l2 until you reach both ends

     Set x to nope p's value.If p has reached the end of l1,set to 0.

     Set y to node q's value.If q has reached the end of l2,set to 0.

     Set sum = x+y+ carry

       \*\*\*\*\*\*\*\*\*//line 8\*\*\*\*\*\*

     Create a new node with the digit value of (sum mod 10)and set it to current node's next,then

     advance current node to next.

     Advance both p and q

Check if carry=1,if so append a new node with digit 1 to the returning list

Return dummy head's next node

Which of the options listed below can be used to replace the code at line 8 to get the correct output?



a.

Update carry = x+y



b.

Update carry = 1



c.

Update sum = x+y+carry



d.

Update carry = sum/10

[Clear my choice](https://getcertified.ramco.com/mod/quiz/attempt.php?attempt=225&cmid=188)

Question **8**

Not yet answered

Marked out of 1.00

Flag question

1. Question text

Alice was given an array containing only *0s* and *1s*. Her task was to find the largest subarray which contains an equal number of *0s* and *1s*.

**Example**

**Input:** arr[] = {1, 0, 1, 1, 1, 0, 0}

**Output:** 1 to 6

Alice came up with the pseudocode but missed some of the statements in between:

**Pseudocode:**

int hack\_left[n]

Run a loop from i=0 to n-1

  if(arr[i]==0)

  hacksum[i] = hacksum[i-1]+-1

  else

  hacksum[i] = hacksum[i-1]+-1

        if (hacksum[i] > max)

            max = hacksum[i];

Run a loop from i=0 to n-1

 if (hacksum[i] == 0)

        {

           hackmax = i+1;

           startindex = 0;

        }

        if (hash[hacksum[i]-min] == -1)

            hash[hacksum[i]-min] = i;

        else

        {

            if ((i - hash[hacksum[i]-min]) > maxsize)

            {

                //line 1

                //line 2

            }

        }

return hackmax

Help Alice in finding what will come in place of line *1* and line *2*.



a.

hackmax = i - hash[hacksum[i]-min];

* startindex = hash[hacksum[i]-min] + 1;



b.

hackmax = i - hash[hacksum[i+1]-min];

startindex = hash[hacksum[i+1]-min] + 1;



c.

hackmax = i - hash[hacksum[i]+min];

startindex = hash[hacksum[i]+min] + 1;



d.

hackmax = i - hash[hacksum[i-1]-min];

startindex = hash[hacksum[i-1]-min] + 1;

[Clear my choice](https://getcertified.ramco.com/mod/quiz/attempt.php?attempt=225&cmid=188)

Question **9**

Not yet answered

Marked out of 1.00

Flag question

1. Question text

In data structures, if three numbers (2, 3, 5) of an algebraic series are processed inside a queue val1 and a stack val2 which are initially empty, then what is the output of the following code:

val1.enqueue(3);

val1.enqueue(5);

val1.enqueue(2);

val2.push(val1.dequeue());

val2.push(val1.dequeue());

val2.pop();



a.

q.front() returns 3 and the stack is empty



b.

q.front() returns 2 and the stack is empty



c.

q.front() returns 3 and s.top() returns 5



d.

q.front() returns 2 and s.top() returns 3

[Clear my choice](https://getcertified.ramco.com/mod/quiz/attempt.php?attempt=225&cmid=188)

Question **10**

Not yet answered

Marked out of 1.00

Flag question

1. Question text

**Problem statement**

**Jones is learning Data Structures. His professor asked him to work on the concept of queues. He started to design a Circular queue that performs all operations. But he missed some lines of code. Help him to complete the below pseudocode:**

**Pseudocode**

**Function Node {**

**Input int value;**

**Input nextNode;**

**Function  Node(int value) {**

**nextNode = null;**

**}**

**}**

**Function  MyCircularQueue {**

**Input  head, tail;**

**Input int count;**

**Input int capacity;**

**Function MyCircularQueue(int k) {**

**capacity = k;**

**}**

**Function boolean enQueue(int value) {**

**if (count == capacity)**

**return false;**

**newNode = value;**

**if (count == 0) {**

**head = tail = newNode;**

**} else {**

**tail.nextNode = newNode;**

**tail = newNode;**

**}**

**count += 1;**

**return true;**

**}**

**Function  boolean deQueue() {**

**if (count == 0)**

**return false;**

**//code  line 31**

**count -= 1;**

**return true;**

**}**

**Function Front() {**

**if (count == 0)**

**return -1;**

**else**

**return head.value;**

**}**

**Function Rear() {**

**if (count == 0)**

**//code line 45**

**else**

**return tail.value;**

**}**

**Function  boolean isEmpty() {**

**return (count == 0);**

**}**

**Function  boolean isFull() {**

**//code line 53**

**}**

**}**

**What will be the code in place of lines 31,45 and 53?**



a.

head = tail= nextNode;                 //line 31  
return 0;                      //line 45  
return (count == capacity);     //line 5



b.

head = nextNode;                 //line 31  
return -1;                      //line 45  
return -1;     //line 53



c.

head = nextNode;                 //line 31  
return capacity;                      //line 45  
return -1;     //line 53



d.

head = nextNode;                 //line 31  
return -1;                      //line 45  
return (count == capacity);     //line 53