**What will be the content of the stack after execution of the following code?**

1.Create a stack

2.Push 1 on to the stack

3.Push 2 on to the stack

4.Push 3 on to the stack

5.pop from the stack

6.pop from the stack

7.push 4 on to the stack

8.push 5 on to the stack

9.push 6 on to the stack

10.pop from the stack

11.push 7 on to the stack

12.pop from the stack

13.pop from the stack

14.pop from the stack

**Select on option**

A.1

B.1,7

C.7

D.1,6,7

**ANSWER- OPTION (A)**

**What will be the complexity for the below pseudocode?**

1.SET t = 0

2.READ Array A [0…9]

3.FOR each element e in A

4.t = t + e

5.ENDFOR

6.PRINT t

**Select an option**

A.Order of 10

B.Order of 1

C.Order of 100

D.Order of 2

**ANSWER- OPTION (A)**

**What will be the output of the following program for num = 10?**

1.initialize output with zero

2.while (num is greater than 0) {

3. push num on the stack

4. decrement num

5. }

6.while [stack is not empty]{

7. pop the stack and add to the output

8.}

9.print output

**Select an option**

A.45

B.55

C.65

D.50

**ANSWER- (B)**

**Which of the following options do not exist in the complexity theory?**

**Select an option**

A.Null case

B.Average case

C.Worst case

D.None of the given options

**ANSWER- OPTION-(A)**

**What will be the output of the following code snippet?**

1.class Mett1{

2.public static void main (String args [ ] ) {

3.float f1 = 10.20f;

4. float f2= 10.20f;

5.System.out.print In (f1 = =f2);

6.}

7.}

**Select an option**

A. Compilation error

B. Runtime Exception

C. True

D. False

**ANSWER- OPTION(C)**

**What is the complexity of a binary search algorithm?**

**Select an option**

A.o(n2)

B.o(n log n)

C.o(n)

D.o(log n)

**ANSWER - OPTION(D)**

**Which of the following is used to retrieve number of rows in a MySQL Table?**

**Select an option**

A. MYSQL\_NUM\_ROWS

B.MYSQL\_ROW\_COUNT

C.MYSQL\_ROW\_NUMBER

D.None of the given options

**ANSWER -OPTION(B)**

**What will be the output of the following code snippet?**

1.class Hello{

2. public void showNumber( ) {

3. system.out.printin(10);

4. return;

5. }

6. }

7.

8.classMettl {

9. public static void main (String args [ ]) {

10. Hello h = new Hello( );

11. h.showNumber( );

12. }

13.}

**Select an option**

A.10

B.Null

C.Compilation error

D.Runtime Exception

**ANSWER- OPTION-(A)**

**When it is time for your Operating System (OS) to choose one of the available scheduling algorithms, it (OS) chooses an algorithm in such a way that each process is provided with a fixed time to execute, and once a process is executed for a given time period, it is pre-empted and some other process executes for a given time period. Which of the following scheduling algorithms best matches this description?**

**Select an option**

A.Priority Based

B.First Come First Serve (FCFS)

C.Round Robin

D.Multiple-Level Queues

**ANSWER- OPTION(C)**

**In Java, a non-static nested class is termed as which of the following options?**

**Select an option**

A.Inner class

B.Outer class

C.Circular class

D.None of the given options

**ANSWER- OPTION(A)**

**Your tech lead is advised to use "For” loops wherever required instead of "while" and "do while" loops. Is there any specific reason beyond that?**

**Select an option**

A.No specific reason. But with “for” loops found a convenience that initialization, condition check can happen in a single line increment/Decrement only should be inside

B.No specific reason. But with “for” loops found a convenience that initialization condition check increment/decrement All three happen in a single line. Even beginners can understand that easily.

C.Yes, with "for” loops found a convenience that initialization, condition check increment/decrement all 3 happen in a single line and execution is faster too while compared to other loops

D.Yes” for” loops are quite a speeder Hence performance is the possible factor that can be considered while compared to other loops

**ANSWER- OPTION(B)**

**Consider the following pseudocode:**

**Which of the following options indicate the output of this pseudocode?**

1 FUNCTION PrintSqr

2 FOR I=1 TO 10 STEP 2 DO

3 Print 'SQUARE OF ,I,' is . CALCULATE(I\*I)

4 END FOR

5 END FUNCTION

6

7 PROGRAM START

8 CALL Printsqr

9 STOP

**Select an option**

A.SQUARE OF 1 is 1

SQUARE OF 2 is 4

SQUARE OF 3 is 9

SQUARE OF 4 is 16

SQUARE OF 5 is 25

SQUARE OF 6 is 36

SQUARE OF 7 is 49

SQUARE OF 8 is 64

SQUARE OF 9 is 81

SQUARE OF 10 is 100

B.SQUARE OF 1 is 1

SQUARE OF 3 is 9

SQUARE OF 5 is 25

SQUARE OF 7 is 49

SQUARE OF 9is 81

SQUARE OF 10 is 100

C.SQUARE OF 2 is 4

SQUARE OF 4 is 16

SQUARE OF 6 is 36

SQUARE OF 8is64

SQUARE OF 10 is 100

D.SQUARE OF 1 is 1

SQUARE OF 3 is 9

SQUARE OF 5 is 25

SQUARE OF 7 is 49

SQUARE OF 9 is 81

**ANSWER- OPTION(A)**

**The user has input one condition to check using an IF statement; he/she wants to add another check if the first check is failed. Which of the following statement (keyword) he/she can use to add that check?**

**Select an option**

A.IF

B.ELSE

C.ELSE IF

D.ENDIF

**ANSWER- OPTION(C)**

**What structure does the following pseudo code belong to?**

1 get sequence

2 get another sequence

3 iterate sequence 1

4 for each iteration of sequence 1 iterate sequence 2

**Select an option**

A.decision

B.sequence

C.nested

D.loop

**ANSWER - OPTION C**

**Consider the following pseudocode:**

1 START

2 Integer A,B,C, Result

3 GET A,B,C

4 IF NOT (NOT (A>B)) AND NOT (NOT (A>C)) THEN

5 SET Result = A

6 ELSE

7 IF NOT (NOT (B>A)) AND NOT (NOT (B>C)) THEN

8 SET Result =B

9 ELSE

10 SET Result = c

11 END IF

12 END IF

13 Print ‘The result is’, Result

14 STOP

a.What is the result that the program is trying to output in this code when three numbers are input?

b. What will be printed when the input given to the program is 10,20,5?

**Select an option**

A.a. The program prints the number which will be found in the middle when the three numbers are sorted

b. The output will be 'The result is 10’

B.a. The program prints the largest among the three numbers input

b. The output will be 'The result is 20’

C.a. The program prints the second smallest among the three numbers input

b.The output will be ‘The result is 10’

D.a. The program prints the smallest among the three numbers input

b. The output will be 'The result is 5’

**ANSWER- OPTION(B)**

**Which of the following statements about Strings class in Java are true?**

A. String class is immutable.

B. String class is final

C. String class is abstract.

**Select an option**

A.Both A and B

B.Both B and C

C.Both A and C

D.A, B and C

**ANSWER- OPTION(A)**

**Following is the recursive algorithm:**

1 algorithm GCD takes number X, number Y

2 if Y =0

3 display X

4 end if

5 display GCD(Y, X %Y )

6 halt

This recursive algorithm pseudocode has a single recursive call, and in the caller, there is no computation during the return. Which kind of recursion is used here?

**Select an option**

A.Tail

B.Near Tail

C.Iteration

D.Extended

**ANSWER: OPTION A**

**What will be the output of the following code snippet?**

1 public class qq22{

2 public static void main(String as []){

3 qq22 t = new qq22();

4 t.method();

5 }

6 public static void method() {

7 System.out.println("NullPointerException");

8 }

9 }

**Select an option**

A.Compilation Error

B.RuntimeException

C.NullPointerException

D.Garbage value

**Answer : OPTION C**

**How to Attempt?**

**Anagrams**

An anagram is a word, phrase, or name formed by rearranging the letters of another word, phrase, or name

Write a function to check if two given strings are anagrams or not. Return "yes" if they are anagrams, otherwise return "no".

Input Specification:

input1: the first string

input2: the second string

Output Specification:

Return "yes" if they are anagrams, otherwise return "no"

Example 1:

inputi: build

input2: dubli

Output: yes

Explanation:

First string can be rearranged to form the second string. Hence, they are anagram of each other

Example 2;

input1: beast

input25 yeast

**CODE:**

// JAVA program to check whether two strings

// are anagrams of each other

import java.io.\*;

import java.util.Arrays;

import java.util.Collections;

class GFG {

/\* function to check whether two strings are

anagram of each other \*/

static boolean areAnagram(char[] str1, char[] str2)

{

// Get lengths of both strings

int n1 = str1.length;

int n2 = str2.length;

// If length of both strings is not same,

// then they cannot be anagram

if (n1 != n2)

return false;

// Sort both strings

Arrays.sort(str1);

Arrays.sort(str2);

// Compare sorted strings

for (int i = 0; i < n1; i++)

if (str1[i] != str2[i])

return false;

return true;

}

/\* Driver Code\*/

public static void main(String args[])

{

Scanner sc=new Scanner(System.in);

String s1=sc.nextLine();

String s2=sc.nextLine();

char str1[] = s1.toCharArray();

char str2[] = s2.toCharArray();

// Function Call

if (areAnagram(str1, str2))

System.out.println("The two strings are"

+ " anagram of each other");

else

System.out.println("The two strings are not"

+ " anagram of each other");

}

}

**How to Attempt?**

**Nick's Check**

Nick has been given a list of random numbers by his teacher. These numbers are marks of several students of his class. He is required to arrange the marks in increasing order and hence check whether the new arrangement of marks are successive in nature or not. You need to write a function such that it returns 1 if the complete arrangement consists of consecutive marks, otherwise return 0.

**Note**: If two students have the same marks, then after arranging them in increasing order, they will not be considered as consecutive

Input Specification:

input1: Integer Nie, size of the array

Input2: Integer array for elements of the array

Output Specification:

Return 1 if all the numbers are consecutive after arrangement, otherwise return O.

Example 1:

input: 6

input2: (3,7,2,6,4,5)

Output: 1

Explanation:

After arranging the above numbers in increasing order the array comes out to be as 2.3.4.5.6.7. As the numbers in the array are consecutive, therefore 1 is returned

Example 2:

**CODE:**

// Java implementation of the approach

import java.util.Arrays;

class AreConsecutive {

/\* The function checks if the array elements are consecutive

If elements are consecutive, then returns true, else returns

false \*/

boolean areConsecutive(int arr[], int n)

{

//Sort the array

Arrays.sort(arr);

// checking the adjacent elements

for(int i=1;i<n;i++)

{

if(arr[i]!=arr[i-1]+1)

{

return false;

}

}

return true;

}

public static void main(String[] args)

{

AreConsecutive consecutive = new AreConsecutive();

int arr[] = {5, 4, 2, 3, 1, 6};

int n = arr.length;

if (consecutive.areConsecutive(arr, n) == true)

System.out.println("1");

else

System.out.println("0");

}

}

**How to Attempt?**

**Nth character in Decrypted String**

Every character in the input string is followed by its frequency.

Write a function to decrypt the string and find the nth character of the decrypted string. If no character exists at that position then return"-1",

For eg - if the input string is "a2b3" the decrypted string is "aabbb"

**Note**: The frequency of encrypted string cannot be greater than a single digit i.e< 10.

Input Specification:

input1: a string

input2:n, the position of the character starting from 1

Output Specification:

Return the character which occurs at the nth position in the decrypted string. Return"-1" no character exists at that position

**Example 1**

input1: alb1c3

input2:5

Output:c

Explanation:

The decrypted string is "abccc", hence the 5th

character in the decrypted string is "c".

**Example 2**

input : a3b2

inn : 7

Output=-1

**CODE:**

import java.util.Scanner;

class Demo {

static String returnNthString(String str,int n)

{

String decrStr="";

char ch[]=str.toCharArray();

for (int i = 0; i < ch.length; i++) {

if(Character.isLetter(ch[i]))

{

decrStr = decrStr + ch[i];

}

else

{

for (int j = 1; j < ch[i]-'0'; j++) {

decrStr = decrStr+ch[i-1];

}

}

}

if(decrStr.length()<n)

return "-1";

else

return decrStr.charAt(n)+"";

}

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

String str = sc.next();

int n = sc.nextInt();

System.out.println(returnNthString(str,n));

}

}

**Which of the following sorting algorithms follows the divide-and-conquer approach?**

**Select an option**

A.insertion sort

B.Bubble sort

C.Quick sort

D.None of the given options

**ANSWER: OPTION C**

**Which of the following is the parent class for Exception and Error?**

**Select an option**

A.ThFs class

B.Throw class

C.Throwable class

*D.None of the given options*

**ANSWER: OPTION C**

**Which of the following is not a valid MySQL aggregate function?**

**Select an option**

A.COUNT

B.MIN

C. MAX

D.COMPUTE

**ANSWER: OPTION D**

**Analyze the given sentence and choose the condition where we need to use functions?**

**Select an option**

A.When you wish to represent your program as a whole and not in sub-steps

B.When you do not want to reuse some existing codes

C.When you need to make your variable namespace not clean

D.When you need to test smaller portions of your program by isolating it from the rest of the program

Answer: D

**Which of the following number methods return(s) the largest integer that is less than or equal to the argument?**

**Select an option**

A.abs0

B.floor0

C.cell0

D.All of the given options

**ANSWER B.floor0**

**Which of the following can be used as access modifiers of a method?**

A. Private

B. Public

C. Protected

D. Default

**Select an option**

A.Both B and C

B.A,B and C

C. B,C and D

D.All of the given options

**ANSWER: D.All of the given options**

**Which of the following options is the correct signature of the equals () method?**

**public boolean equals(Object obj)**

**Which of the following statements is used to create a database in MySQL?**

**Select an option**

1. **CREATE DATABASE database\_name**;

**In MySQL which of the following options about cross join is correct?**

**Select an option**

A.(M\*N) row

B.(M+N) row

C.(M-N) row

D.(M+N+1)row

**ANSWER: A.(M\*N) row**

**In a program the input of items is in a sorted array (8,7,5,4,2). New numbers are coming randomly and getting added to the array such as the number 9 got added leading to (8,7,5,4,2,9)**

**The new array is nearly sorted but the programme needs the array to be in descending order completely. To reduce the time complexity of the algorithm, which sorting method should be used in this case?**

**Select an option**

A.Bubblesort

B.Insertion Sort

C.Merge sort

**ANSWER: C.Merge sort**

**Stack is a distinct type of list where the operations are performed at one end of the stack.**

**Determine:**

**1)What is the principle under which stack operations take place?**

**2)Which method cannot be performed in stack?**

**Select an option**

A.1Continuous allocation

2 accessing the top element in stack

B.1Dynamic distubution

2 removing an element in stack

C.1last in first out

2 replace an element in stack

D.1 first in first out

2 insert an element in stack

**Ans:C**

**What will be the output of the following code snippet?**

1 public class Test {

2 static public void Main { string [] args} }

3 system out.printIn {‘’Hello’’}.

4 }

5 }

**Select an option**

A.hello

B.the code would not compile

C. the code would not compile in public in static have been exchanged

D.resume extention

**Ans:A**

**How to Attempt?**

**Number Sum**

Given an array of size n write a function to find the sum of the largest and smallest elements in the array

**Input Specification:**

**input1**: Integer n describing the size of the given array

**input2**: Integer array specifying the elements of the anay

**Output Specification**:

Return an integer as the sum of the largest and smallest ele given away

**Example 1:**

***Input 1*** *: 4*

***input2****:{9,5,0,11}*

***Output:11***

**CODE:**

1. **import** java.util.\*;
2. **import** java.lang.\*;
3. **import** java.io.\*;
4. **class** Ideone
5. {
6. **public** **static** **void** main ([String](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+string)[] args) **throws** java.lang.[Exception](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+exception)
7. {
8. Scanner in=**new** Scanner([System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).in);
9. **int** n=in.nextInt();
10. **int**[] a=**new** **int**[n];
11. **for**(**int** i=0;i<n;i++){
12. a[i]=in.nextInt();
13. }
14. [Arrays](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+arrays).sort(a);
15. **int** sum=a[0]+a[n-1];
16. [System](http://www.google.com/search?hl=en&q=allinurl%3Adocs.oracle.com+javase+docs+api+system).out.println(sum);
17. }
18. }

**How to Attempt?**

**Reverse String Word Wise**

Write a function to reverse a string word wise.

**Input Specification**

**Input 1 : String**

**Output Specification**

Return the reversed that the last word input string should come at the first position of the output sta second word at the second position and so on individual w as should remain as it

**Example 1:**

input1: Welcome to me

**Output**: me to Welcome

**CODE:**

import java.util.\*;

public class Main

{

public static void main(String[] args) {

Scanner sc = new Scanner(System.in);

String str = sc.nextLine();

String[] arr=str.split(" ");

for(int i=arr.length-1;i>=0;i--)

System.out.print(arr[i]+" ");

}

}

**The time taken by an algorithm depends on**

**Select an option**

A.input

B. output

C. variables used

D. None of the given options

**Answer : D**

**What will be the output of the following code snippet?**

1 public class Test {

2 public static void pupAge{ } {

3 int age = 0;

4 age = age+;7,

5 System out printin{"Puppy age is = ‘’ + age};

6 }

7

8 public static void main{String args [] } {

9Test test = new Test{ };

10Test pupAge { },

11 }

12 }

**Select an option**

A.Puppy age is 0

B. Puppy age is 7

C. Puppy age is 8

D. Puppy age is 9

**Option : B**

**In which of the following queues is the list of processes waiting for an I/O put?**

**Select an option**

A.Job queue

B.Ready queue

C.Device queue

**Option : B**

**Which of the following options is not a required condition for binary search algorithm?**

**Select an option**

A. There must be mechanism to delete and/or insert elements in list

B.The list must be sorted

C.There should be the direct access to the middle element in any sub-list

D.None of the given options

**Option : A**

**What is the algorithm in the following pseudo code used for?**

1 DECLARE CHARACTER c

2 DECLARE INTEGER num=0

3 DO

4 READ c

5 IF C IS 'O' THROUGH '9" THEN

6 num++

7 END IF

8 UNTIL C IS ‘\n’

9 PRINT num

10 END

**Select an option**

A.Word count

B.Character count

C.To find new line character

D.Counting digits

**Option : D**

**Which of the following classes is immutable in Java?**

**Select an option**

A.ArrayList class

B.Collections class

C.String class

D.String Buffer class

**Option : C**

**When the flowing access methods will you use when you want immediate access to large information?**

**Select an option**

A.Linked allocation

B.Sequential access

C. Direct access

D. None of the given options

**Option : C**

**What will be the output for below pseudocode for x = 5 and y=6?**

1READ x and y

2 SET ans= 0

3 WHILE y ! =0

4 ans = ans + x

5 y= y- 1

6 EndWHILE

7 PRINT ans

**Select an option**

A.11

B.21

C.15

D.30

**Ans-D**

**Which of the following data structure allows detections at both rears of the list but intruding at only one end.**

**Select an option**

A.Output-restncteddeque

B.Input-restricted deque

C.Priority queues

D.None of the given options

**Ans-B**

**A recurrence is a function that is defined in terms of which of the following options?**

A One or more base cases

B. Itself with smaller arguments

**Both A and B**

156.

For e-shopping websites, the following code used to processes user’s order

1 do {

2 //browse item

3 //add items

4 //....

5 }while {items are available}

6 if{user is logged in and has a proper credit card or net banking

Facility}

7 process the order

8 End If

**What is the reason to use "do while" loops in this code?**

Select an option

A.The given requirement with '’do while’’ loop helps to browse and add items before logging in into the website.

B.The given requirement with "do while” loop asks for registration/login and then browse and add the products and finally completion of payment by the user.

C.For the given requirement using "do while” ensures that user will purchase the product and cannot browse other items until the product is purchased

D.For the given requirement “do while” will ensure that user can view only the items which he/she wants and to provide customization.

**Ans:A**