Status	Finished
Started	Sunday, 17 November 2024, 6:23 PM
Completed	Sunday, 17 November 2024, 6:45 PM
Duration	22 mins 28 secs

Question **1**

Correct

Marked out of 5.00

You are provided with a string which has a sequence of 1's and 0's.

This sequence is the encoded version of a English word. You are supposed write a program to decode the provided string and find the original word.

Each alphabet is represented by a sequence of 0s.

This is as mentioned below:

Z : 0

Y : 00

X : 000

W : 0000

V : 00000

U : 000000

T : 0000000

and so on upto A having 26 0's (00000000000000000000000000).

The sequence of 0's in the encoded form are separated by a single 1 which helps to distinguish between 2 letters.

Example 1:

input1: 010010001

The decoded string (original word) will be: ZYX

Example 2:

input1: 00001000000000000000000001000000000001000000000100000000000001

The decoded string (original word) will be: WIPRO

Note: The decoded string must always be in UPPER case.

For example:

Input	Result
010010001	ZYX
00001000000000000000000001000000000001000000000100000000000001	WIPRO

Answer: (penalty regime: 0 %)

```java
import java.util.Scanner;

public class Decoder {
    public static String decode(String encoded) {
        // Split the encoded string by '1' to get sequences of '0's
        String[] zeroSequences = encoded.split("1");

        // Initialize a StringBuilder to hold the decoded characters
        StringBuilder decodedWord = new StringBuilder();

        // Map the length of the '0' sequence to the corresponding alphabet
        for (String seq : zeroSequences) {
            int length = seq.length();
            if (length > 0) { // Ignore empty strings
                // Calculate the corresponding character from the length
                char decodedChar = (char) ('Z' - length + 1);
                decodedWord.append(decodedChar);
            }
        }

        return decodedWord.toString();
    }

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
```

```
27          // System.out.println("Enter the encoded string:");
28          String encoded = scanner.nextLine();
29
30          String decodedWord = decode(encoded);
31
32          System.out.println( decodedWord);
33
34          scanner.close();
35     }
36 }
37
```

	Input	Expected	Got	
✓	010010001	ZYX	ZYX	✓
✓	0000100000000000000000001000000000001000000000010000000000001	WIPRO	WIPRO	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 5.00

Write a function that takes an input String (sentence) and generates a new String (modified sentence) by reversing the words in the original String, maintaining the words position.

In addition, the function should be able to control the reversing of the case (upper or lowercase) based on a case_option parameter, as follows:

If case_option = 0, normal reversal of words i.e., if the original sentence is "Wipro TechNologies BangaLore", the new reversed sentence should be "orpiW seigoloNhceT eroLagnaB".

If case_option = 1, reversal of words with retaining position's case i.e., if the original sentence is "Wipro TechNologies BangaLore", the new reversed sentence should be "Orpiw SeigOlonhcet ErolaGnab".

Note that positions 1, 7, 11, 20 and 25 in the original string are uppercase W, T, N, B and L.

Similarly, positions 1, 7, 11, 20 and 25 in the new string are uppercase O, S, O, E and G.

NOTE:

1.   Only space character should be treated as the word separator i.e., "Hello World" should be treated as two separate words, "Hello" and "World". However, "Hello,World", "Hello;World", "Hello-World" or "Hello/World" should be considered as a single word.

2.   Non-alphabetic characters in the String should not be subjected to case changes. For example, if case option = 1 and the original sentence is "Wipro TechNologies, Bangalore" the new reversed sentence should be "Orpiw ,seiGolonhceT Erolagnab". Note that comma has been treated as part of the word "Technologies," and when comma had to take the position of uppercase T it remained as a comma and uppercase T took the position of comma. However, the words "Wipro and Bangalore" have changed to "Orpiw" and "Erolagnab".

3.   Kindly ensure that no extra (additional) space characters are embedded within the resultant reversed String.

Examples:

S. No.	input1	input2	output
1	Wipro Technologies Bangalore	0	orpiW seigolonhceT erolagnaB
2	Wipro Technologies, Bangalore	0	orpiW ,seigolonhceT erolagnaB
3	Wipro Technologies Bangalore	1	Orpiw Seigolonhcet Erolagnab
4	Wipro Technologies, Bangalore	1	Orpiw ,seigolonhceT Erolagnab

For example:

Input	Result
Wipro Technologies Bangalore 0	orpiW seigolonhceT erolagnaB
Wipro Technologies, Bangalore 0	orpiW ,seigolonhceT erolagnaB
Wipro Technologies Bangalore 1	Orpiw Seigolonhcet Erolagnab
Wipro Technologies, Bangalore 1	Orpiw ,seigolonhceT Erolagnab

Answer: (penalty regime: 0 %)

```java
1  import java.util.Scanner;
2
3  public class WordReverser {
4
5      public static String reverseWords(String sentence, int caseOption) {
6          String[] words = sentence.split(" ");
7          StringBuilder modifiedSentence = new StringBuilder();
8
9          for (String word : words) {
10             StringBuilder reversedWord = new StringBuilder(word).reverse();
11
12             if (caseOption == 1) {
13                 for (int i = 0; i < word.length(); i++) {
14                     if (Character.isUpperCase(word.charAt(i))) {
15                         reversedWord.setCharAt(i, Character.toUpperCase(reversedWord.charAt(i)));
16                     } else if (Character.isLowerCase(word.charAt(i))) {
```

```
17                     reversedWord.setCharAt(i, Character.toLowerCase(reversedWord.charAt(i)));
18                 }
19             }
20         }
21
22         modifiedSentence.append(reversedWord).append(" ");
23     }
24
25     return modifiedSentence.toString().trim();
26 }
27
28 ▾  public static void main(String[] args) {
29         Scanner scanner = new Scanner(System.in);
30
31         //System.out.println("Enter the sentence:");
32         String sentence = scanner.nextLine();
33
34         //System.out.println("Enter case option (0 or 1):");
35         int caseOption = scanner.nextInt();
36
37         String result = reverseWords(sentence, caseOption);
38
39         System.out.println(result);
40
41         scanner.close();
42     }
43 }
44
```

	Input	Expected	Got	
✓	Wipro Technologies Bangalore 0	orpiW seigolonhceT erolagnaB	orpiW seigolonhceT erolagnaB	✓
✓	Wipro Technologies, Bangalore 0	orpiW ,seigolonhceT erolagnaB	orpiW ,seigolonhceT erolagnaB	✓
✓	Wipro Technologies Bangalore 1	Orpiw Seigolonhcet Erolagnab	Orpiw Seigolonhcet Erolagnab	✓
✓	Wipro Technologies, Bangalore 1	Orpiw ,seigolonhceT Erolagnab	Orpiw ,seigolonhceT Erolagnab	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

Given two char arrays input1[] and input2[] containing only lower case alphabets, extracts the alphabets which are present in both arrays (common alphabets).

Get the ASCII values of all the extracted alphabets.

Calculate sum of those ASCII values. Lets call it sum1 and calculate single digit sum of sum1, i.e., keep adding the digits of sum1 until you arrive at a single digit.

Return that single digit as output.

Note:

1.   Array size ranges from 1 to 10.

2.   All the array elements are lower case alphabets.

3.   Atleast one common alphabet will be found in the arrays.

Example 1:

input1: {'a', 'b', 'c'}

input2: {'b', 'c'}

output: 8

Explanation:

'b' and 'c' are present in both the arrays.

ASCII value of 'b' is 98 and 'c' is 99.

98 + 99 = 197

1 + 9 + 7 = 17

1 + 7 = 8

For example:

Input	Result
a b c b c	8

Answer: (penalty regime: 0 %)

```java
1  import java.util.HashSet;
2
3  public class CommonCharAsciiSum {
4
5      public static int singleDigitAsciiSum(char[] input1, char[] input2) {
6          // Use a HashSet to store characters in input1 for quick lookup
7          HashSet<Character> set = new HashSet<>();
8          for (char c : input1) {
9              set.add(c);
10         }
11
12         // Find common characters and calculate their ASCII value sum
13         int sum1 = 0;
14         for (char c : input2) {
15             if (set.contains(c)) {
16                 sum1 += (int) c; // Add ASCII value of common character
17             }
18         }
19
20         // Reduce the sum1 to a single digit sum
21         while (sum1 > 9) {
22             int tempSum = 0;
23             while (sum1 > 0) {
24                 tempSum += sum1 % 10;
25                 sum1 /= 10;
26             }
27             sum1 = tempSum;
28         }
29
```

```
30          return sum1;
31      }
32
33 ▾   public static void main(String[] args) {
34          char[] input1 = {'a', 'b', 'c'};
35          char[] input2 = {'b', 'c'};
36
37          int result = singleDigitAsciiSum(input1, input2);
38          System.out.println( result);  // Expected output: 8
39      }
40 }
41
```

	Input	Expected	Got	
✓	a b c b c	8	8	✓

Passed all tests! ✓

◄ Lab-12-MCQ

Jump to...

Identify possible words ►

Status	Finished
Started	Sunday, 17 November 2024, 6:20 PM
Completed	Sunday, 17 November 2024, 6:46 PM
Duration	25 mins 37 secs

Question **1**

Correct

Marked out of 1.00

Java HashSet class implements the Set interface, backed by a hash table which is actually a [HashMap](#) instance.

No guarantee is made as to the iteration order of the hash sets which means that the class does not guarantee the constant order of elements over time.

This class permits the null element.

 The class also offers constant time performance for the basic operations like add, remove, contains, and size assuming the hash function disperses the elements properly among the buckets.

Java HashSet Features

A few important features of HashSet are mentioned below:

- Implements [Set Interface](#).
- The underlying data structure for HashSet is [Hashtable](#).
- As it implements the Set Interface, duplicate values are not allowed.
- Objects that you insert in HashSet are not guaranteed to be inserted in the same order. Objects are inserted based on their hash code.
- NULL elements are allowed in HashSet.
- HashSet also implements **Serializable** and **Cloneable** interfaces.
-
```
public class HashSet<E> extends AbstractSet<E> implements Set<E>, Cloneable, Serializable
Sample Input and Output:
5
90
56
45
78
25
78
Sample Output:
78 was found in the set.
Sample Input and output:
3
2
7
9
5
Sample Input and output:
5 was not found in the set.
```

Answer: (penalty regime: 0 %)

Reset answer

```java
1  import java.util.HashSet;
2  import java.util.Scanner;
3
4  public class Prog {  // Rename class to avoid conflict with the HashSet class
5      public static void main(String[] args) {
6          Scanner sc = new Scanner(System.in);
7          int n = sc.nextInt();  // Read the number of elements to be added to the set
8
9          // Create a HashSet object called numbers
10         HashSet<Integer> numbers = new HashSet<>();
11
12         // Add values to the set
13         for (int i = 0; i < n; i++) {
14             numbers.add(sc.nextInt());
15         }
16
17         int skey = sc.nextInt();  // Read the number to check
18
19         // Check if skey is present in the set and print the result
20         if (numbers.contains(skey)) {
21             System.out.println(skey + " was found in the set.");
22         } else {
23             System.out.println(skey + " was not found in the set.");
24         }
25     }
26 }
27
```

	Test	Input	Expected	Got	
✓	1	5 90 56 45 78 25 78	78 was found in the set.	78 was found in the set.	✓
✓	2	3 -1 2 4 5	5 was not found in the set.	5 was not found in the set.	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 1.00

Write a Java program to compare two sets and retain elements that are the same.

Sample Input and Output:

5

Football

Hockey

Cricket

Volleyball

Basketball

7   // **HashSet 2:**

Golf

Cricket

Badminton

Football

Hockey

Volleyball

Handball

SAMPLE OUTPUT:

Football

Hockey

Cricket

Volleyball

Basketball

Answer: (penalty regime: 0 %)

```java
import java.util.HashSet;
import java.util.Scanner;
import java.util.Set;

public class CompareSets {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        // Read first set (HashSet 1)
        int n1 = sc.nextInt();  // Read the number of elements in the first set
        sc.nextLine();  // Consume the newline character

        Set<String> set1 = new HashSet<>();
        for (int i = 0; i < n1; i++) {
            set1.add(sc.nextLine());
        }

        // Read second set (HashSet 2)
        int n2 = sc.nextInt();  // Read the number of elements in the second set
        sc.nextLine();  // Consume the newline character

        Set<String> set2 = new HashSet<>();
        for (int i = 0; i < n2; i++) {
            set2.add(sc.nextLine());
        }

        // Retain only the common elements in set1
        set1.retainAll(set2);

        // Output the common elements
        for (String sport : set1) {
            System.out.println(sport);
        }
    }
}
```

	Test	Input	Expected	Got	
✓	1	5 Football Hockey Cricket Volleyball Basketball 7 Golf Cricket Badminton Football Hockey Volleyball Throwball	Cricket Hockey Volleyball Football	Cricket Hockey Volleyball Football	✓
✓	2	4 Toy Bus Car Auto 3 Car Bus Lorry	Bus Car	Bus Car	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 1.00

Java HashMap Methods

containsKey() Indicate if an entry with the specified key exists in the map

containsValue() Indicate if an entry with the specified value exists in the map

putIfAbsent() Write an entry into the map but only if an entry with the same key does not already exist

remove() Remove an entry from the map

replace()   Write to an entry in the map only if it exists

size()   Return the number of entries in the map

Your task is to fill the incomplete code to get desired output

Answer: (penalty regime: 0 %)

Reset answer

```java
1  import java.util.HashMap;
2  import java.util.Map.Entry;
3  import java.util.Set;
4  import java.util.Scanner;
5
6  class prog {
7      public static void main(String[] args) {
8          // Creating HashMap with default initial capacity and load factor
9          HashMap<String, Integer> map = new HashMap<String, Integer>();
10
11         String name;
12         int num;
13         Scanner sc = new Scanner(System.in);
14         int n = sc.nextInt(); // Read the number of entries
15
16         // Adding key-value pairs to the map
17         for (int i = 0; i < n; i++) {
18             name = sc.next();  // Read key (name)
19             num = sc.nextInt(); // Read value (num)
20             map.put(name, num); // Add to map
21         }
22
23         // Printing key-value pairs in map
24         Set<Entry<String, Integer>> entrySet = map.entrySet();
25         for (Entry<String, Integer> entry : entrySet) {
26             System.out.println(entry.getKey() + " : " + entry.getValue());
27         }
28         System.out.println("----------");
29
30         // Creating another HashMap
31         HashMap<String, Integer> anotherMap = new HashMap<String, Integer>();
32
33         // Inserting key-value pairs into anotherMap using put() method
34         anotherMap.put("SIX", 6);
35         anotherMap.put("SEVEN", 7);
36
37         // Inserting key-value pairs of map to anotherMap using putAll() method
38         anotherMap.putAll(map);   // Use putAll() to add entries of map to anotherMap
39
40         // Printing key-value pairs of anotherMap
41         entrySet = anotherMap.entrySet();
42         for (Entry<String, Integer> entry : entrySet) {
43             System.out.println(entry.getKey() + " : " + entry.getValue());
44         }
45
46         // Adds key-value pair 'FIVE-5' only if it is not present in map
47         map.putIfAbsent("FIVE", 5);
48
49         // Retrieving a value associated with key 'TWO'
50         Integer value = map.get("TWO"); // Use Integer to handle null safely
51         if (value != null) {
52             System.out.println(value);  // Print the value associated with "TWO"
```

	Test	Input	Expected	Got	
✓	1	3 ONE 1 TWO 2 THREE 3	ONE : 1 TWO : 2 THREE : 3 ---------- SIX : 6 ONE : 1 TWO : 2 SEVEN : 7 THREE : 3 2 true true 4	ONE : 1 TWO : 2 THREE : 3 ---------- SIX : 6 ONE : 1 TWO : 2 SEVEN : 7 THREE : 3 2 true true 4	✓

Passed all tests! ✓

◄ Lab-11-MCQ

Jump to...

TreeSet example ►

Status	Finished
Started	Tuesday, 5 November 2024, 8:41 AM
Completed	Tuesday, 5 November 2024, 9:20 AM
Duration	39 mins 16 secs

Question **1**

Correct

Marked out of 1.00

Given an ArrayList, the task is to get the first and last element of the ArrayList in Java.

```
Input: ArrayList = [1, 2, 3, 4]
Output: First = 1, Last = 4

Input: ArrayList = [12, 23, 34, 45, 57, 67, 89]
Output: First = 12, Last = 89
```

Approach:

1. Get the ArrayList with elements.
2. Get the first element of ArrayList using the get(index) method by passing index = 0.
3. Get the last element of ArrayList using the get(index) method by passing index = size − 1.

Answer: (penalty regime: 0 %)

```java
1  import java.util.ArrayList;
2  import java.util.Scanner;
3
4  public class FirstAndLastElement
5  {
6      public static void main(String[] args)
7      {
8          Scanner scanner = new Scanner(System.in);
9
10         int n=scanner.nextInt();
11         ArrayList<Integer> list=new ArrayList<>();
12         for(int i=0;i<n;i++)
13         {
14             list.add(scanner.nextInt());
15         }
16
17         printFirstandLast(list);
18     }
19     public static void printFirstandLast(ArrayList<Integer> list)
20     {
21         if(list.isEmpty())
22         {
23             System.out.println("The list is empty.");
24             return;
25         }
26         int first=list.get(0);
27         int last=list.get(list.size()-1);
28         System.out.println("ArrayList: "+list);
29         System.out.println("First : " + first + ", Last : "+last);
30     }
31  }
32
```

	Test	Input	Expected	Got	
✓	1	6 30 20 40 50 10 80	ArrayList: [30, 20, 40, 50, 10, 80] First : 30, Last : 80	ArrayList: [30, 20, 40, 50, 10, 80] First : 30, Last : 80	✓
✓	2	4 5 15 25 35	ArrayList: [5, 15, 25, 35] First : 5, Last : 35	ArrayList: [5, 15, 25, 35] First : 5, Last : 35	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 1.00

The given Java program is based on the ArrayList methods and its usage. The Java program is partially filled. Your task is to fill in the incomplete statements to get the desired output.

list.set();

list.indexOf());

list.lastIndexOf())

list.contains()

list.size());

list.add();

 list.remove();

The above methods are used for the below Java program.

Answer: (penalty regime: 0 %)

Reset answer

```java
1  import java.util.ArrayList;
2  import java.util.Scanner;
3
4  class prog {
5
6  public static void main(String[] args)
7  {
8   Scanner sc= new Scanner(System.in);
9   int n = sc.nextInt();
10
11   ArrayList<Integer> list = new ArrayList<Integer>();
12
13   for(int i = 0; i<n;i++)
14   {
15   list.add(sc.nextInt());
16  }
17   // printing initial value ArrayList
18   System.out.println("ArrayList: " +list);
19
20  list.set(1,100);
21  //Replacing the element at index 1 with 100
22
23
24   //Getting the index of first occurrence of 100
25  System.out.println("Index of 100 = "+list.indexOf(100));
26
27  //Getting the index of last occurrence of 100
28   System.out.println("LastIndex of 100 = "+list.lastIndexOf(100));
29  // Check whether 200 is in the list or not
30  System.out.println(list.contains(200)); //Output : false
31   // Print ArrayList size
32   System.out.println("Size Of ArrayList = "+list.size());
33  //Inserting 500 at index 1
34     list.add(1,500);                          // code here
35   //Removing an element from position 3
36     list.remove(3);                           // code here
37    System.out.print("ArrayList: " + list);
38  }
39  }
```

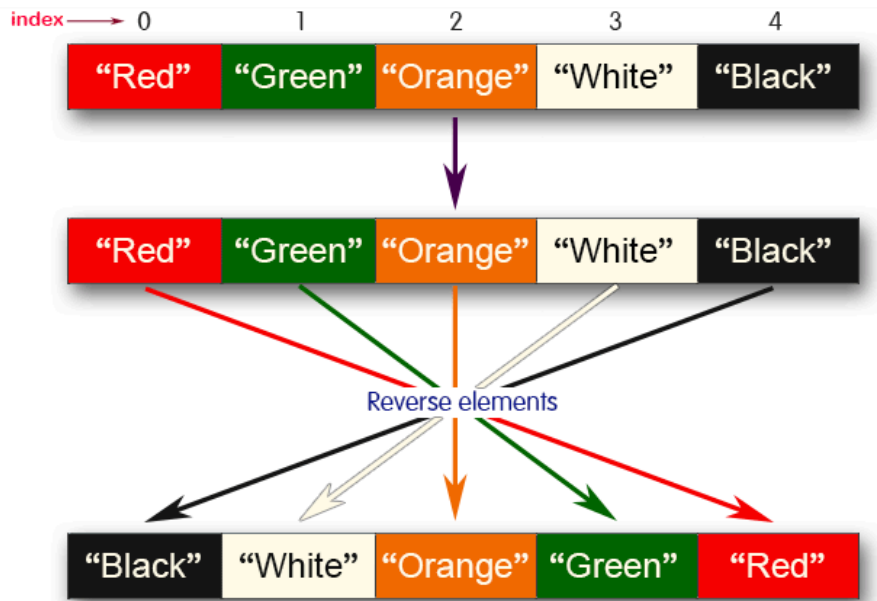|	Test	Input	Expected	Got	
✓	1	5 1 2 3 100 5	ArrayList: [1, 2, 3, 100, 5] Index of 100 = 1 LastIndex of 100 = 3 false Size Of ArrayList = 5 ArrayList: [1, 500, 100, 100, 5]	ArrayList: [1, 2, 3, 100, 5] Index of 100 = 1 LastIndex of 100 = 3 false Size Of ArrayList = 5 ArrayList: [1, 500, 100, 100, 5]	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 1.00

Write a Java program to reverse elements in an array list.


```
Sample input and Output:
Red
Green
Orange
White
Black
Sample output
List before reversing :
[Red, Green, Orange, White, Black]
List after reversing :
[Black, White, Orange, Green, Red]
```

Answer: (penalty regime: 0 %)

```java
import java.util.ArrayList;
import java.util.Collections;
import java.util.Scanner;

public class ReverseArrayList
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        int n = sc.nextInt();
        sc.nextLine();

        ArrayList<String>elements = new ArrayList<>();

        for(int i=0;i<n;i++)
        {
            String element = sc.nextLine();
            elements.add(element);
        }

        System.out.println("List before reversing :\n" + elements);
        Collections.reverse(elements);
        System.out.println("List after reversing :\n" + elements);

        sc.close();
    }
}
```

	Test	Input	Expected	Got	
✓	1	5 Red Green Orange White Black	List before reversing : [Red, Green, Orange, White, Black] List after reversing : [Black, White, Orange, Green, Red]	List before reversing : [Red, Green, Orange, White, Black] List after reversing : [Black, White, Orange, Green, Red]	✓
✓	2	4 CSE AIML AIDS CYBER	List before reversing : [CSE, AIML, AIDS, CYBER] List after reversing : [CYBER, AIDS, AIML, CSE]	List before reversing : [CSE, AIML, AIDS, CYBER] List after reversing : [CYBER, AIDS, AIML, CSE]	✓

Passed all tests! ✓

◄ Lab-10-MCQ

Jump to...

Lab-11-MCQ ►

Status	Finished
Started	Monday, 21 October 2024, 7:02 PM
Completed	Monday, 21 October 2024, 7:06 PM
Duration	3 mins 39 secs

Question **1**

Correct

Marked out of 5.00

In the following program, an array of integer data is to be initialized.

During the initialization, if a user enters a value other than an integer, it will throw an InputMismatchException exception.

On the occurrence of such an exception, your program should print "You entered bad data."

If there is no such exception it will print the total sum of the array.

/* Define try-catch block to save user input in the array "name"
   If there is an exception then catch the exception otherwise print the total sum of the array. */

Sample Input:

3

5 2 1

Sample Output:

8

Sample Input:

2

1 g

Sample Output:

You entered bad data.

For example:

Input	Result
3 5 2 1	8
2 1 g	You entered bad data.

Answer: (penalty regime: 0 %)

Reset answer

```
1
2   import java.util.Scanner;
3   import java.util.InputMismatchException;
4
5   public class Main {
6       public static void main(String[] args) {
7           Scanner sc = new Scanner(System.in);
8
9           try {
10              // Read the size of the array
11              int n = sc.nextInt();
12              int[] arr = new int[n];
13              int sum = 0;
14
15              // Read array elements
16              for (int i = 0; i < n; i++) {
17                  arr[i] = sc.nextInt();
18                  sum += arr[i];
19              }
20
21              // If no exception, print the sum of digits
22              int totalSum = 0;
23              while (sum > 0) {
24                  totalSum += sum % 10;
25                  sum /= 10;
26              }
27              System.out.println(totalSum);
28
29          } catch (InputMismatchException e) {
30              // Handle input mismatch exception
31              System.out.println("You entered bad data.");
32          }
33      }
```

```
34  }
```

	Input	Expected	Got	
✓	3 5 2 1	8	8	✓
✓	2 1 g	You entered bad data.	You entered bad data.	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 5.00

Write a Java program to create a method that takes an integer as a parameter

and throws an exception if the number is odd.

Sample input and Output:

```
82 is even.
Error: 37 is odd.
```

Fill the preloaded answer to get the expected output.

For example:

Result
82 is even. Error: 37 is odd.

Answer: (penalty regime: 0 %)

Reset answer

```java
1  public class Main {
2
3      // Method to check if a number is even or odd
4      public static void checkEvenOdd(int number) throws Exception {
5          if (number % 2 == 0) {
6              System.out.println(number + " is even.");
7          } else {
8              // Throw an exception if the number is odd
9              throw new Exception(number + " is odd.");
10         }
11     }
12
13     public static void main(String[] args) {
14         try {
15             // Test with an even number
16             checkEvenOdd(82);
17
18             // Test with an odd number
19             checkEvenOdd(37);
20
21         } catch (Exception e) {
22             // Catch and print the exception message for odd numbers
23             System.out.println("Error: " + e.getMessage());
24         }
25     }
26 }
27
```

	Expected	Got	
✓	82 is even. Error: 37 is odd.	82 is even. Error: 37 is odd.	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

Write a Java program to handle ArithmeticException and ArrayIndexOutOfBoundsException.

Create an array, read the input from the user, and store it in the array.

Divide the 0th index element by the 1st index element and store it.

if the 1st element is zero, it will throw an exception.

if you try to access an element beyond the array limit throws an exception.

Input:

5

10 0 20 30 40

Output:

java.lang.ArithmeticException: / by zero
I am always executed

Input:

3

10   20   30

Output
java.lang.ArrayIndexOutOfBoundsException: Index 3 out of bounds for length 3
I am always executed

For example:

Test	Input	Result
1	6 1 0 4 1 2 8	java.lang.ArithmeticException: / by zero I am always executed

Answer: (penalty regime: 0 %)

```java
1  import java.util.Scanner;
2
3  public class Main {
4      public static void main(String[] args) {
5          Scanner sc = new Scanner(System.in);
6          try {
7              // Read the size of the array
8              int n = sc.nextInt();
9              int[] arr = new int[n];
10
11             // Fill the array with user inputs
12             for (int i = 0; i < n; i++) {
13                 arr[i] = sc.nextInt();
14             }
15
16             // Try to divide the element at index 0 by the element at index 1
17             int result = arr[0] / arr[1];
18
19
20             // Access an element beyond the array limit (throws exception)
21             System.out.println("Accessing element at index " + n + ": " + arr[n]);
22
23         } catch (ArithmeticException e) {
24             System.out.println("java.lang.ArithmeticException: " + e.getMessage());
25         } catch (ArrayIndexOutOfBoundsException e) {
26             System.out.println("java.lang.ArrayIndexOutOfBoundsException: " + e.getMessage());
27         } finally {
28             // This block will always be executed
29             System.out.println("I am always executed");
30         }
31     }
32 }
```

	Test	Input	Expected	Got	
✓	1	6 1 0 4 1 2 8	`java.lang.ArithmeticException: / by zero` `I am always executed`	`java.lang.ArithmeticException: / by zero` `I am always executed`	✓

✓	2	3
		10 20
		30
			`java.lang.ArrayIndexOutOfBoundsException: Index`
			`3 out of bounds for length 3`
			`I am always executed`
				`java.lang.ArrayIndexOutOfBoundsException: Index`
				`3 out of bounds for length 3`
				`I am always executed`
					✓

Passed all tests! ✓

◄ Lab-09-MCQ

Jump to...

The "Nambiar Number" Generator ►

|	
Status	Finished
Started	Monday, 21 October 2024, 6:55 PM
Completed	Monday, 21 October 2024, 7:00 PM
Duration	4 mins 49 secs

Question **1**

Correct

Marked out of 5.00

Create a base class Shape with a method called calculateArea(). Create three subclasses: Circle, Rectangle, and Triangle. Override the calculateArea() method in each subclass to calculate and return the shape's area.

In the given exercise, here is a simple diagram illustrating polymorphism implementation:

© w3resource.com
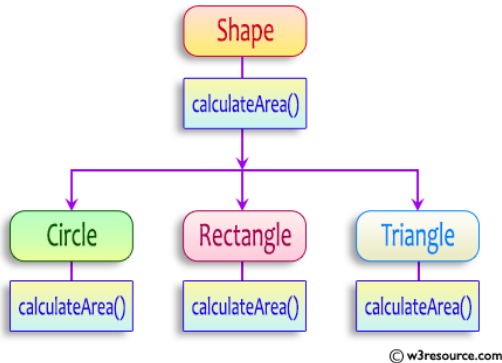
```
 abstract class Shape {
    public abstract double calculateArea() ;
    }
}
```

System.out.printf("Area of a Triangle :%.2f%n",((0.5)*base*height)); // use this statement

sample Input :

4   // radius of the circle to calculate area PI*r*r

5   // length of the rectangle

6 // breadth of the rectangle to calculate the area of a rectangle

4   // base of the triangle

3   // height of the triangle

OUTPUT:

Area of a circle :50.27
Area of a Rectangle :30.00
Area of a Triangle :6.00

For example:

Test	Input	Result
1	4 5 6 4 3	Area of a circle: 50.27 Area of a Rectangle: 30.00 Area of a Triangle: 6.00
2	7 4.5 6.5 2.4 3.6	Area of a circle: 153.94 Area of a Rectangle: 29.25 Area of a Triangle: 4.32

Answer: (penalty regime: 0 %)

```java
1  import java.util.Scanner;
2  // Abstract class Shape
3  abstract class Shape {
4  public abstract double calculateArea();
5  }
6  // Circle class
7  class Circle extends Shape {
8  private double radius;
9
10 public Circle(double radius) {
11 this.radius = radius;
12 }
```

```
13  @Override
14  public double calculateArea() {
15  return Math.PI * radius * radius; // Area of circle: πr²
16  }
17  }
18  // Rectangle class
19  class Rectangle extends Shape {
20  private double length;
21  private double breadth;
22  public Rectangle(double length, double breadth) {
23  this.length = length;
24  this.breadth = breadth;
25  }
26  @Override
27  public double calculateArea() {
28  return length * breadth; // Area of rectangle: length * breadth
29  }
30  }
31  // Triangle class
32  class Triangle extends Shape {
33  private double base;
34  private double height;
35  public Triangle(double base, double height) {
36  this.base = base;
37  this.height = height;
38  }
39  @Override
40  public double calculateArea() {
41  return 0.5 * base * height; // Area of triangle: 0.5 * base * height
42  }
43  }
44  // Main class to test the shapes
45  public class ShapeTest {
46  public static void main(String[] args) {
47  Scanner scanner = new Scanner(System.in);
48  // Input for Circle
49
50  double radius = scanner.nextDouble();
51  Circle circle = new Circle(radius);
52  System.out.printf("Area of a circle: %.2f%n", circle.calculateArea());
```

	Test	Input	Expected	Got	
✓	1	4 5 6 4 3	Area of a circle: 50.27 Area of a Rectangle: 30.00 Area of a Triangle: 6.00	Area of a circle: 50.27 Area of a Rectangle: 30.00 Area of a Triangle: 6.00	✓
✓	2	7 4.5 6.5 2.4 3.6	Area of a circle: 153.94 Area of a Rectangle: 29.25 Area of a Triangle: 4.32	Area of a circle: 153.94 Area of a Rectangle: 29.25 Area of a Triangle: 4.32	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 5.00

As a logic building learner you are given the task to extract the string which has vowel as the first and last characters from the given array of Strings.

Step1: Scan through the array of Strings, extract the Strings with first and last characters as vowels; these strings should be concatenated.

Step2: Convert the concatenated string to lowercase and return it.

If none of the strings in the array has first and last character as vowel, then return no matches found

input1: an integer representing the number of elements in the array.

input2: String array.

Example 1:

input1: 3

input2: {"oreo", "sirish", "apple"}

output: oreoapple

Example 2:

input1: 2

input2: {"Mango", "banana"}

output: no matches found

Explanation:

None of the strings has first and last character as vowel.

Hence the output is no matches found.

Example 3:

input1: 3

input2: {"Ate", "Ace", "Girl"}

output: ateace

For example:

Input	Result
3 oreo sirish apple	oreoapple
2 Mango banana	no matches found
3 Ate Ace Girl	ateace

Answer: (penalty regime: 0 %)

```java
1  import java.util.Scanner;
2  public class VowelStringExtractor {
3  // Method to extract strings with vowels as first and last characters
4  public static String extractVowelStrings(String[] stringArray) {
5
6  StringBuilder result = new StringBuilder();
7  String vowels = "aeiouAEIOU"; // String containing all vowels
8  // Iterate through the array of strings
9  for (String s : stringArray) {
10 // Check if the string is not empty and if both the first and last characters are vowels
11 if (s.length() > 0 && vowels.indexOf(s.charAt(0)) != -1 &&
12 vowels.indexOf(s.charAt(s.length() - 1)) != -1) {
13 result.append(s); // Append matching string to the result
14 }
15 }
16 // Return the concatenated string in lowercase or &quot;no matches found&quot;
17 return result.length() > 0 ? result.toString().toLowerCase() : "no matches found";
18 }
19  public static void main(String[] args) {
```

```
19  public static void main(String[] args) {
20  Scanner scanner = new Scanner(System.in);
21  // Input for the number of strings
22  int n = scanner.nextInt();
23  scanner.nextLine(); // Consume the newline character
24  // Input for the strings in one line
25  String input = scanner.nextLine();
26  String[] strings = input.split(" "); // Split input into an array
27  // Process and output the result
28  String result = extractVowelStrings(strings);
29  System.out.println(result);
30  scanner.close(); // Close the scanner
31  }
32  }
```

	Input	Expected	Got	
✓	3 oreo sirish apple	oreoapple	oreoapple	✓
✓	2 Mango banana	no matches found	no matches found	✓
✓	3 Ate Ace Girl	ateace	ateace	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

1. Final Variable:

- Once a variable is declared `final`, its value cannot be changed after it is initialized.
- It must be initialized when it is declared or in the constructor if it's not initialized at declaration.
- It can be used to define constants

  final int MAX_SPEED = 120; // Constant value, cannot be changed

2. Final Method:

- A method declared `final` cannot be overridden by subclasses.
- It is used to prevent modification of the method's behavior in derived classes.

public final void display() {
    System.out.println("This is a final method.");
}

3. Final Class:

- A class declared as `final` cannot be subclassed (i.e., no other class can inherit from it).
- It is used to prevent a class from being extended and modified.
- public final class Vehicle {
      // class code
  }

Given a Java Program that contains the bug in it, your task is to clear the bug to the output.

you should delete any piece of code.

For example:

Test	Result
1	The maximum speed is: 120 km/h This is a subclass of FinalExample.

Answer: (penalty regime: 0 %)

[Reset answer]

```
1   // Final class definition
2   final class FinalExample {
3   // Final variable
4   final int MAX_SPEED = 120; // Constant value
5
6   // Final method
7   public final void display() {
8   System.out.println("The maximum speed is: " + MAX_SPEED + " km/h");
9   }
10  }
11  // Main class to test the final class
12  public class Test {
13  public static void main(String[] args) {
14  // Create an instance of FinalExample
15  FinalExample example = new FinalExample();
16  example.display();
17  // Uncommenting the following line will result in a compile-time error
18  // because FinalExample is a final class and cannot be subclassed.
19  // class SubclassExample extends FinalExample { }
20  System.out.println("This is a subclass of FinalExample.");
21  }
22  }
```

	Test	Expected	Got	
✓	1	The maximum speed is: 120 km/h This is a subclass of FinalExample.	The maximum speed is: 120 km/h This is a subclass of FinalExample.	✓

Passed all tests! ✓

◄ Lab-08-MCQ

Jump to...

FindStringCode ►

Status	Finished
Started	Sunday, 6 October 2024, 8:26 PM
Completed	Sunday, 6 October 2024, 8:31 PM
Duration	4 mins 31 secs

Question **1**

Correct

Marked out of 5.00

create an interface Playable with a method play() that takes no arguments and returns void. Create three classes Football, Volleyball, and Basketball that implement the Playable interface and override the play() method to play the respective sports.

interface Playable {
   void play();
}

class Football implements Playable {
   String name;
   public Football(String name){
     this.name=name;
   }
  public void play() {
  System.out.println(name+" is Playing football");
  }
}

Similarly, create Volleyball and Basketball classes.

Sample output:

```
Sadhvin is Playing football
Sanjay is Playing volleyball
Sruthi is Playing basketball
```

For example:

Test	Input	Result
1	Sadhvin Sanjay Sruthi	Sadhvin is Playing football Sanjay is Playing volleyball Sruthi is Playing basketball
2	Vijay Arun Balaji	Vijay is Playing football Arun is Playing volleyball Balaji is Playing basketball

Answer: (penalty regime: 0 %)

```java
1  import java.util.Scanner;
2  interface Playable {
3      void play();
4  }
5  class Football implements Playable {
6      String name;
7      public Football(String name) {
8          this.name = name;
9      }
10
11     @Override
12     public void play() {
13         System.out.println(name + " is Playing football");
14     }
15 }
16 class Volleyball implements Playable {
17     String name;
18
19     public Volleyball(String name) {
20         this.name = name;
21     }
22     @Override
23     public void play() {
24         System.out.println(name + " is Playing volleyball");
25     }
26 }
27 class Basketball implements Playable {
28     String name;
29     public Basketball(String name) {
30         this.name = name;
31     }
32     @Override
33     public void play() {
```

```
34              System.out.println(name + " is Playing basketball");
35          }
36  }
37  public class Main {
38      public static void main(String[] args) {
39          Scanner scanner = new Scanner(System.in);
40          String footballPlayerName = scanner.nextLine();
41          String volleyballPlayerName = scanner.nextLine();
42          String basketballPlayerName = scanner.nextLine();
43          Playable footballPlayer = new Football(footballPlayerName);
44          Playable volleyballPlayer = new Volleyball(volleyballPlayerName);
45          Playable basketballPlayer = new Basketball(basketballPlayerName);
46          footballPlayer.play();
47          volleyballPlayer.play();
48          basketballPlayer.play();
49          scanner.close();
50      }
51  }
52
```

	Test	Input	Expected	Got	
✓	1	Sadhvin Sanjay Sruthi	Sadhvin is Playing football Sanjay is Playing volleyball Sruthi is Playing basketball	Sadhvin is Playing football Sanjay is Playing volleyball Sruthi is Playing basketball	✓
✓	2	Vijay Arun Balaji	Vijay is Playing football Arun is Playing volleyball Balaji is Playing basketball	Vijay is Playing football Arun is Playing volleyball Balaji is Playing basketball	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 5.00

Create interfaces shown below.

 interface Sports {
public void setHomeTeam(String name);
public void setVisitingTeam(String name);
}
 interface Football extends Sports {
public void homeTeamScored(int points);
public void visitingTeamScored(int points);}
create a class College that implements the Football interface and provides the necessary functionality to the abstract methods.

sample Input:

Rajalakshmi
Saveetha
22
21

Output:

Rajalakshmi 22 scored
Saveetha 21 scored
Rajalakshmi is the Winner!

For example:

Test	Input	Result
1	Rajalakshmi Saveetha 22 21	Rajalakshmi 22 scored Saveetha 21 scored Rajalakshmi is the winner!

Answer: (penalty regime: 0 %)

[Reset answer]

```java
1   import java.util.Scanner;
2   interface Sports {
3       void setHomeTeam(String name);
4       void setVisitingTeam(String name);
5   }
6   interface Football extends Sports {
7       void homeTeamScored(int points);
8       void visitingTeamScored(int points);
9   }
10  class College implements Football {
11      private String homeTeam;
12      private String visitingTeam;
13      private int homeScore;
14      private int visitingScore;
15      public void setHomeTeam(String name) {
16          this.homeTeam = name;
17      }
18      public void setVisitingTeam(String name) {
19          this.visitingTeam = name;
20      }
21      public void homeTeamScored(int points) {
22          this.homeScore = points;
23      }
24      public void visitingTeamScored(int points) {
25          this.visitingScore = points;
26      }
27      public void displayResult() {
28          System.out.println(homeTeam + " " + homeScore + " scored");
29          System.out.println(visitingTeam + " " + visitingScore + " scored");
30          if (homeScore > visitingScore) {
31              System.out.println(homeTeam + " is the winner!");
32          } else if (visitingScore > homeScore) {
33              System.out.println(visitingTeam + " is the winner!");
34          } else {
35              System.out.println("It's a tie match.");
```

```
36              }
37          }
38 }
39 ▾ public class Main {
40 ▾     public static void main(String[] args) {
41              Scanner scanner = new Scanner(System.in);
42                  College match = new College();
43              String homeTeam = scanner.nextLine();
44              String visitingTeam = scanner.nextLine();
45              int homeScore = scanner.nextInt();
46              int visitingScore = scanner.nextInt();
47              match.setHomeTeam(homeTeam);
48              match.setVisitingTeam(visitingTeam);
49              match.homeTeamScored(homeScore);
50              match.visitingTeamScored(visitingScore);
51              match.displayResult();
52              scanner.close();
```

	Test	Input	Expected	Got	
✓	1	Rajalakshmi Saveetha 22 21	Rajalakshmi 22 scored Saveetha 21 scored Rajalakshmi is the winner!	Rajalakshmi 22 scored Saveetha 21 scored Rajalakshmi is the winner!	✓
✓	2	Anna Balaji 21 21	Anna 21 scored Balaji 21 scored It's a tie match.	Anna 21 scored Balaji 21 scored It's a tie match.	✓
✓	3	SRM VIT 20 21	SRM 20 scored VIT 21 scored VIT is the winner!	SRM 20 scored VIT 21 scored VIT is the winner!	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

RBI issues all national banks to collect interest on all customer loans.

Create an RBI interface with a variable String parentBank="RBI" and abstract method rateOfInterest().

RBI interface has two more methods default and static method.

default void policyNote() {

System.out.println("RBI has a new Policy issued in 2023.");

}

static void regulations(){

System.out.println("RBI has updated new regulations on 2024.");

}

Create two subclasses SBI and Karur which implements the RBI interface.

Provide the necessary code for the abstract method in two sub-classes.

Sample Input/Output:

RBI has a new Policy issued in 2023
RBI has updated new regulations in 2024.
SBI rate of interest: 7.6 per annum.
Karur rate of interest: 7.4 per annum.

For example:

Test	Result
1	RBI has a new Policy issued in 2023 RBI has updated new regulations in 2024. SBI rate of interest: 7.6 per annum. Karur rate of interest: 7.4 per annum.

Answer: (penalty regime: 0 %)

```
1  interface RBI {
2      String parentBank = "RBI";
3          double rateOfInterest();
4      default void policyNote() {
5          System.out.println("RBI has a new Policy issued in 2023");
6      }
7      static void regulations() {
8          System.out.println("RBI has updated new regulations in 2024.");
9      }
10 }
11 class SBI implements RBI {
12     @Override
13     public double rateOfInterest() {
14         return 7.6;
15     }
16 }
17 class Karur implements RBI {
18     @Override
19     public double rateOfInterest() {
20         return 7.4;
21     }
22 }
23 public class Main {
24     public static void main(String[] args) {
25         SBI sbi = new SBI();
26         Karur karur = new Karur();
27         sbi.policyNote();
28         RBI.regulations();
29         System.out.println("SBI rate of interest: " + sbi.rateOfInterest() + " per annum.");
30         System.out.println("Karur rate of interest: " + karur.rateOfInterest() + " per annum.");
31     }
32 }
```

	Test	Expected	Got	
✓	1	RBI has a new Policy issued in 2023 RBI has updated new regulations in 2024. SBI rate of interest: 7.6 per annum. Karur rate of interest: 7.4 per annum.	RBI has a new Policy issued in 2023 RBI has updated new regulations in 2024. SBI rate of interest: 7.6 per annum. Karur rate of interest: 7.4 per annum.	✓

Passed all tests! ✓

◄ Lab-07-MCQ

Jump to...

Generate series and find Nth element ►

Status	Finished
Started	Sunday, 6 October 2024, 8:24 PM
Completed	Sunday, 6 October 2024, 8:30 PM
Duration	6 mins 54 secs

Question **1**

Correct

Marked out of 5.00

Given 2 strings input1 & input2.

·   Concatenate both the strings.

·   Remove duplicate alphabets & white spaces.

·   Arrange the alphabets in descending order.

Assumption 1:

There will either be alphabets, white spaces or null in both the inputs.

Assumption 2:

Both inputs will be in lower case.

Example 1:

Input 1: apple

Input 2: orange

Output: rponlgea

Example 2:

Input 1: fruits

Input 2: are good

Output: utsroigfeda

Example 3:

Input 1: ""

Input 2: ""

Output: null

For example:

Test	Input	Result
1	apple orange	rponlgea
2	fruits are good	utsroigfeda

Answer: (penalty regime: 0 %)

```java
1   import java.util.*;
2
3   public class s {
4       public static String solve(String a, String b) {
5           if ((a == null || a.trim().isEmpty()) && (b == null || b.trim().isEmpty())) return "null";
6
7           String combined = a + b;
8           Set<Character> uniqueChars = new HashSet<>();
9
10          for (char c : combined.toCharArray()) {
11              if (Character.isAlphabetic(c)) {
12                  uniqueChars.add(c);
13              }
14          }
15
16          char[] charArray = new char[uniqueChars.size()];
17          int i = 0;
18          for (char c : uniqueChars) {
19              charArray[i++] = c;
20          }
21
22          Arrays.sort(charArray);
23          return new StringBuilder(new String(charArray)).reverse().toString();
24      }
25
26      public static void main(String[] args) {
27          Scanner sc = new Scanner(System.in);
28
```

```
29          String input1 = sc.nextLine();
30          String input2 = sc.nextLine();
31          System.out.println(solve(input1, input2));
32       }
33  }
34
```

	Test	Input	Expected	Got	
✓	1	apple orange	rponlgea	rponlgea	✓
✓	2	fruits are good	utsroigfeda	utsroigfeda	✓
✓	3		null	null	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 5.00

Given a String input1, which contains many number of words separated by : and each word contains exactly two lower case alphabets, generate an output based upon the below 2 cases.

Note:

1. All the characters in input 1 are lowercase alphabets.

2. input 1 will always contain more than one word separated by :

3. Output should be returned in uppercase.

Case 1:

Check whether the two alphabets are same.

If yes, then take one alphabet from it and add it to the output.

Example 1:

input1 = ww:ii:pp:rr:oo

output = WIPRO

Explanation:

word1 is ww, both are same hence take w

word2 is ii, both are same hence take i

word3 is pp, both are same hence take p

word4 is rr, both are same hence take r

word5 is oo, both are same hence take o

Hence the output is WIPRO

Case 2:

If the two alphabets are not same, then find the position value of them and find maximum value – minimum value.

Take the alphabet which comes at this (maximum value - minimum value) position in the alphabet series.

Example 2"

input1 = zx:za:ee

output = BYE

Explanation

word1 is zx, both are not same alphabets

position value of z is 26

position value of x is 24

max – min will be 26 – 24 = 2

Alphabet which comes in 2nd position is b

Word2 is za, both are not same alphabets

position value of z is 26

position value of a is 1

max – min will be 26 – 1 = 25

Alphabet which comes in 25th position is y

word3 is ee, both are same hence take e

Hence the output is BYE

For example:

Input	Result
ww:ii:pp:rr:oo	WIPRO
zx:za:ee	BYE

Answer: (penalty regime: 0 %)

1   import java.util.Scanner;

```java
1  import java.util.Scanner;
2
3  public class prog{
4
5      public static void main(String[] args) {
6          Scanner sc = new Scanner(System.in);
7
8
9
10         String input = sc.nextLine();
11
12
13         String[] words = input.split(":");
14
15         StringBuilder result = new StringBuilder();
16
17         for (String word : words) {
18             char c1 = word.charAt(0);
19             char c2 = word.charAt(1);
20
21             if (c1 == c2) {
22
23                 result.append(Character.toUpperCase(c1));
24             } else {
25
26                 int pos1 = c1 - 'a' + 1;
27                 int pos2 = c2 - 'a' + 1;
28
29                 int diff = Math.abs(pos1 - pos2);
30
31
32                 char newChar = (char) ('a' + diff - 1);
33                 result.append(Character.toUpperCase(newChar));
34             }
35         }
36
37
38         System.out.println(result.toString());
39
40
41     }
42 }
```

	Input	Expected	Got	
✓	ww:ii:pp:rr:oo	WIPRO	WIPRO	✓
✓	zx:za:ee	BYE	BYE	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

You are provided a string of words and a 2-digit number. The two digits of the number represent the two words that are to be processed.

For example:

If the string is "Today is a Nice Day" and the 2-digit number is 41, then you are expected to process the 4th word ("Nice") and the 1st word ("Today").

The processing of each word is to be done as follows:

Extract the Middle-to-Begin part: Starting from the middle of the word, extract the characters till the beginning of the word.

Extract the Middle-to-End part: Starting from the middle of the word, extract the characters till the end of the word.

If the word to be processed is "Nice":

Its Middle-to-Begin part will be "iN".

Its Middle-to-End part will be "ce".

So, merged together these two parts would form "iNce".

Similarly, if the word to be processed is "Today":

Its Middle-to-Begin part will be "doT".

Its Middle-to-End part will be "day".

So, merged together these two parts would form "doTday".

Note: Note that the middle letter 'd' is part of both the extracted parts. So, for words whose length is odd, the middle letter should be included in both the extracted parts.

Expected output:

The expected output is a string containing both the processed words separated by a space "iNce doTday"

Example 1:

input1 = "Today is a Nice Day"

input2 = 41

output = "iNce doTday"

Example 2:

input1 = "Fruits like Mango and Apple are common but Grapes are rare"

input2 = 39

output = "naMngo arGpes"

Note: The input string input1 will contain only alphabets and a single space character separating each word in the string.

Note: The input string input1 will NOT contain any other special characters.

Note: The input number input2 will always be a 2-digit number (>=11 and <=99). One of its digits will never be 0. Both the digits of the number will always point to a valid word in the input1 string.

For example:

Input	Result
Today is a Nice Day 41	iNce doTday
Fruits like Mango and Apple are common but Grapes are rare 39	naMngo arGpes

Answer: (penalty regime: 0 %)

```java
1  import java.util.Scanner;
2  import java.util.Arrays;
3  import java.lang.String;
4
5  class prog {
6
7      public static void main(String[] args) {
8
9          Scanner o=new Scanner(System.in);
10         String s=o.nextLine();
11         int n=o.nextInt();
```

```
12
13            String result = processWords(s,n);
14            System.out.println(result);
15
16
17        }
18
19 ▾    public static String processWords(String input1, int input2) {
20
21            String[] words = input1.split(" ");
22
23            int firstIndex = (input2 / 10) - 1;
24            int secondIndex = (input2 % 10) - 1;
25
26
27            String firstWordProcessed = processWord(words[firstIndex]);
28            String secondWordProcessed = processWord(words[secondIndex]);
29
30
31            return firstWordProcessed + " " + secondWordProcessed;
32        }
33
34
35 ▾    public static String processWord(String word) {
36            int length = word.length();
37            int mid = length / 2;
38
39            String l, f;
40
41
42 ▾        if (length % 2 == 0) {
43                f=word.substring(0,mid);
44            f= new StringBuilder(f).reverse().toString();
45            l= word.substring(mid);
46            return f+l ;
47
48 ▾        } else {
49            f = word.substring(0, mid + 1);
50            f= new StringBuilder(f).reverse().toString();
51            l= word.substring(mid);
52        }
```

	Input	Expected	Got	
✓	Today is a Nice Day 41	iNce doTday	iNce doTday	✓
✓	Fruits like Mango and Apple are common but Grapes are rare 39	naMngo arGpes	naMngo arGpes	✓

Passed all tests! ✓

◄ Lab-06-MCQ

Jump to...

Return second word in Uppercase ►

Status	Finished
Started	Sunday, 6 October 2024, 8:19 PM
Completed	Sunday, 6 October 2024, 8:30 PM
Duration	11 mins 11 secs

Question **1**

Correct

Marked out of 5.00

Create a class Mobile with constructor and a method basicMobile().

Create a subclass CameraMobile which extends Mobile class , with constructor and a method newFeature().

Create a subclass AndroidMobile which extends CameraMobile, with constructor and a method androidMobile().

display the details of the Android Mobile class by creating the instance. .

class Mobile{

}

class CameraMobile extends Mobile {

}

class AndroidMobile extends CameraMobile {

}

expected output:

Basic Mobile is Manufactured
Camera Mobile is Manufactured
Android Mobile is Manufactured
Camera Mobile with 5MG px
Touch Screen Mobile is Manufactured

For example:

Result
Basic Mobile is Manufactured Camera Mobile is Manufactured Android Mobile is Manufactured Camera Mobile with 5MG px Touch Screen Mobile is Manufactured

Answer: (penalty regime: 0 %)

```
1  class Mobile{
2      public Mobile(){
3
4          System.out.println("Basic Mobile is Manufactured");
5      }
6  }
7  class CameraMobile extends Mobile{
8
9      public CameraMobile(){
10         System.out.println("Camera Mobile is Manufactured");
11     }
12     public void newFeature(){
13         System.out.println("Camera Mobile with 5MG px");
14     }
15 }
16
17 class AndroidMobile extends CameraMobile{
18     public AndroidMobile(){
19         System.out.println("Android Mobile is Manufactured");
20     }
21     void androidMobile(){
22         System.out.println("Touch Screen Mobile is Manufactured");
23     }
24 }
25
26 class prog{
27     public static void main(String[] args){
28         AndroidMobile o=new AndroidMobile();
29         o.newFeature();
30         o.androidMobile();
31     }
32 }
```

	Expected	Got	
✓	Basic Mobile is Manufactured Camera Mobile is Manufactured Android Mobile is Manufactured Camera Mobile with 5MG px Touch Screen Mobile is Manufactured	Basic Mobile is Manufactured Camera Mobile is Manufactured Android Mobile is Manufactured Camera Mobile with 5MG px Touch Screen Mobile is Manufactured	✓

Passed all tests! ✓

	Expected	Got	
✓	Basic Mobile is Manufactured Camera Mobile is Manufactured Android Mobile is Manufactured Camera Mobile with 5MG px Touch Screen Mobile is Manufactured	Basic Mobile is Manufactured Camera Mobile is Manufactured Android Mobile is Manufactured Camera Mobile with 5MG px Touch Screen Mobile is Manufactured	✓

Question **2**

Correct

Marked out of 5.00

Create a class known as "BankAccount" with methods called deposit() and withdraw().

Create a subclass called SavingsAccount that overrides the withdraw() method to prevent withdrawals if the account balance falls below one hundred.

For example:

Result
Create a Bank Account object (A/c No. BA1234) with initial balance of $500: Deposit $1000 into account BA1234: New balance after depositing $1000: $1500.0 Withdraw $600 from account BA1234: New balance after withdrawing $600: $900.0 Create a SavingsAccount object (A/c No. SA1000) with initial balance of $300: Try to withdraw $250 from SA1000! Minimum balance of $100 required! Balance after trying to withdraw $250: $300.0

Answer: (penalty regime: 0 %)

Reset answer

```
1  class BankAccount {
2      private String accountNumber;
3      private double balance;
4
5      public BankAccount(String accountNumber, double balance){
6          this.accountNumber=accountNumber;
7          this.balance=balance;
8      }
9
10     // Method to deposit an amount into the account
11     public void deposit(double amount) {
12         // Increase the balance by the deposit amount
13         balance+=amount;
14
15     }
16
17     public void withdraw(double amount) {
18         if (balance >= amount) {
19             balance -= amount;
20         } else {
21             System.out.println("Insufficient balance");
22         }
23     }
24
25     // Method to get the current balance
26     public double getBalance() {
27         // Return the current balance
28         return balance;
29
30     }
31 }
32
33  class SavingsAccount extends BankAccount {
34     // Constructor to initialize account number and balance
35     public SavingsAccount(String accountNumber, double balance) {
36         // Call the parent class constructor
37         super(accountNumber,balance);
38
39     }
40
41     // Override the withdraw method from the parent class
42     @Override
43     public void withdraw(double amount) {
44         // Check if the withdrawal would cause the balance to drop below $100
45         if (getBalance() - amount < 100) {
46             // Print a message if the minimum balance requirement is not met
47             System.out.println("Minimum balance of $100 required!");
48         } else {
49             // Call the parent class withdraw method
50             super.withdraw(amount);
```

```
51          }
52      }
```

	Expected	Got	
✓	Create a Bank Account object (A/c No. BA1234) with initial balance of $500: Deposit $1000 into account BA1234: New balance after depositing $1000: $1500.0 Withdraw $600 from account BA1234: New balance after withdrawing $600: $900.0 Create a SavingsAccount object (A/c No. SA1000) with initial balance of $300: Try to withdraw $250 from SA1000! Minimum balance of $100 required! Balance after trying to withdraw $250: $300.0	Create a Bank Account object (A/c No. BA1234) with initial balance of $500: Deposit $1000 into account BA1234: New balance after depositing $1000: $1500.0 Withdraw $600 from account BA1234: New balance after withdrawing $600: $900.0 Create a SavingsAccount object (A/c No. SA1000) with initial balance of $300: Try to withdraw $250 from SA1000! Minimum balance of $100 required! Balance after trying to withdraw $250: $300.0	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

---

create a class called College with attribute String name, constructor to initialize the name attribute , a method called Admitted(). Create a subclass called CSE that extends Student class, with department attribute , Course() method to sub class. Print the details of the Student.

College:

String collegeName;

public College() { }

public admitted() { }

Student:

String studentName;

String department;

public Student(String collegeName, String studentName,String depart) { }

public toString()

Expected Output:

A student admitted in REC
CollegeName : REC
StudentName : Venkatesh
Department : CSE

For example:

Result
A student admitted in REC CollegeName : REC StudentName : Venkatesh Department : CSE

Answer: (penalty regime: 0 %)

[Reset answer]

```
1  class College
2  {
3  protected    String collegeName;
4
5      public College(String collegeNameP) {
6          // initialize the instance variables
7          collegeName= collegeNameP;
8          }
9
10     public void admitted() {
11         System.out.println("A student admitted in "+collegeName);
12     }
13     }
14     class Student extends College{
15
16     String studentName;
17     String depart;
18
19         public Student(String collegeNameP, String studentNameP,String departP) {
20             // initialize the instance variables
21             super(collegeNameP);
22             studentName=studentNameP;
23             depart=departP;
24
25
26
27     }
28
29         public String toString(){
30             // return the details of the student
31             return "CollegeName : "+collegeName+"\nStudentName : "+studentName+"\nDepartment : "+depart ;
32     }
33     }
34     class prog {
35     public static void main (String[] args) {
```

```
36            Student  s1 = new Student("REC","Venkatesh","CSE");
37
38            s1.admitted();                            // invoke the admitted() method
39            System.out.println(s1.toString());
40     }
41 }
```

	Expected	Got	
✓	A student admitted in REC CollegeName : REC StudentName : Venkatesh Department : CSE	A student admitted in REC CollegeName : REC StudentName : Venkatesh Department : CSE	✓

Passed all tests! ✓

◄ Lab-05-MCQ

Jump to...

Is Palindrome Number? ►

Status	Finished
Started	Friday, 4 October 2024, 2:18 PM
Completed	Friday, 4 October 2024, 2:35 PM
Duration	17 mins 12 secs

Question **1**

Correct

Marked out of 5.00

Create a class Student with two private attributes, name and roll number. Create three objects by invoking different constructors available in the class Student.

Student()

Student(String name)

Student(String name, int rollno)

Input:

No input

Output:

No-arg constructor is invoked
1 arg constructor is invoked
2 arg constructor is invoked
Name =null , Roll no = 0
Name =Rajalakshmi , Roll no = 0
Name =Lakshmi , Roll no = 101

For example:

Test	Result
1	No-arg constructor is invoked 1 arg constructor is invoked 2 arg constructor is invoked Name =null , Roll no = 0 Name =Rajalakshmi , Roll no = 0 Name =Lakshmi , Roll no = 101

Answer: (penalty regime: 0 %)

```java
class Student{
private String name;
private int rollNo;
public Student(){
System.out.println("No-arg constructor is invoked");
}
public Student(String name){
System.out.println("1 arg constructor is invoked");
}
 public Student(String name,int rollNo){
  System.out.println("2 arg constructor is invoked");
 }
public void display(){
}
}
public class TestStudent{
public static void main(String[]args){
Student student1=new Student();
student1.display();
Student student2=new Student("Rajalakshmi");
student2.display();
Student student3=new Student("Lakshmi", 101);
student3.display();
System.out.println("Name =null , Roll no = 0");
System.out.println("Name =Rajalakshmi , Roll no = 0");
System.out.println("Name =Lakshmi , Roll no = 101");

}
    }
```

	Test	Expected	Got	
✓	1	No-arg constructor is invoked 1 arg constructor is invoked 2 arg constructor is invoked Name =null , Roll no = 0 Name =Rajalakshmi , Roll no = 0 Name =Lakshmi , Roll no = 101	No-arg constructor is invoked 1 arg constructor is invoked 2 arg constructor is invoked Name =null , Roll no = 0 Name =Rajalakshmi , Roll no = 0 Name =Lakshmi , Roll no = 101	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 5.00

Create a class called "Circle" with a radius attribute. You can access and modify this attribute using getter and setter methods. Calculate the area and circumference of the circle.

Area of Circle = πr²

Circumference = 2πr

Input:

2

Output:

Area = 12.57
Circumference = 12.57

For example:

Test	Input	Result
1	4	Area = 50.27 Circumference = 25.13

Answer: (penalty regime: 0 %)

[Reset answer]

```java
1   import java.util.*;
2   public class Circle{
3
4
5       public static void main (String asgs[]){
6           Scanner a=new Scanner(System.in);
7           int b=a.nextInt();
8           double area=Math.PI*(b*b);
9           double cir=Math.PI*b*2;
10          System.out.printf("Area = %.2f%n",area);
11          System.out.printf("Circumference = %.2f%n",cir);
12      }
13  }
14
15
16
17
```

	Test	Input	Expected	Got	
✓	1	4	Area = 50.27 Circumference = 25.13	Area = 50.27 Circumference = 25.13	✓
✓	2	6	Area = 113.10 Circumference = 37.70	Area = 113.10 Circumference = 37.70	✓
✓	3	2	Area = 12.57 Circumference = 12.57	Area = 12.57 Circumference = 12.57	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

Create a Class Mobile with the attributes listed below,

private String manufacturer;
private String operating_system;
public String color;
private int cost;

Define a Parameterized constructor to initialize the above instance variables.

Define getter and setter methods for the attributes above.

for example : setter method for manufacturer is

void setManufacturer(String manufacturer){

this.manufacturer= manufacturer;

}

String getManufacturer(){

 return manufacturer;}

Display the object details by overriding the toString() method.

For example:

Test	Result
1	manufacturer = Redmi operating_system = Andriod color = Blue cost = 34000

Answer: (penalty regime: 0 %)

```
 1  public class Mobile{
 2      private String manufacturer;
 3      private String operatingSystem;
 4      public String color;
 5      private int cost;
 6      public Mobile(String manufacturer, String operatingSystem, String color, int cost){
 7          this.manufacturer = manufacturer;
 8          this.operatingSystem = operatingSystem;
 9          this.color = color;
10          this.cost = cost;
11      }
12      public void setManufacturer(String manufacturer)  {
13          this.manufacturer = manufacturer; }
14      public String getManufacturer(){
15          return manufacturer;
16      }
17      public void setoperatingSystem(String operatingSystem){
18          this.operatingSystem = operatingSystem;
19      }
20      public String getoperatingSystem(){
21          return operatingSystem;
22      }
23      public void setcolor(String color){
24          this.color = color;
25      }
26      public String getcolor(){
27          return color;
28      }
29      public void setcost(int cost){
30          this.cost = cost;
31      }
32      public int getcost(){
33          return cost;
34      }
35      @Override
36      public String toString(){
37          return "manufacturer = " + manufacturer +
38                  "\noperating_system = " + operatingSystem +
39                  "\ncolor = "+color+
```

```
40              "\ncost = "+cost;
41        }
42 ▾  public static void main(String args[]){
43        Mobile mobile = new Mobile("Redmi","Andriod","Blue", 34000);
44        System.out.println(mobile);
45      }
46    }
47
48
49
```

	Test	Expected	Got	
✓	1	manufacturer = Redmi operating_system = Andriod color = Blue cost = 34000	manufacturer = Redmi operating_system = Andriod color = Blue cost = 34000	✓

Passed all tests! ✓

Jump to...

Status	Finished
Started	Thursday, 3 October 2024, 8:56 AM
Completed	Thursday, 3 October 2024, 9:16 AM
Duration	19 mins 51 secs

Question **1**

Correct

Marked out of 5.00

Given an array of numbers, you are expected to return the sum of the longest sequence of POSITIVE numbers in the array.

If there are NO positive numbers in the array, you are expected to return -1.

In this question's scope, the number 0 should be considered as positive.

Note: If there are more than one group of elements in the array having the longest sequence of POSITIVE numbers, you are expected to return the total sum of all those POSITIVE numbers (see example 3 below).

input1 represents the number of elements in the array.

input2 represents the array of integers.

Example 1:

input1 = 16

input2 = {-12, -16, 12, 18, 18, 14, -4, -12, -13, 32, 34, -5, 66, 78, 78, -79}

Expected output = 62

Explanation:

The input array contains four sequences of POSITIVE numbers, i.e. "12, 18, 18, 14", "12", "32, 34", and "66, 78, 78". The first sequence "12, 18, 18, 14" is the longest of the four as it contains 4 elements. Therefore, the expected output = sum of the longest sequence of POSITIVE numbers = 12 + 18 + 18 + 14 = 63.

Example 2:

input1 = 11

input2 = {-22, -24, 16, -1, -17, -19, -37, -25, -19, -93, -61}

Expected output = -1

Explanation:

There are NO positive numbers in the input array. Therefore, the expected output for such cases = - 1.

Example 3:

input1 = 16

input2 = {-58, 32, 26, 92, -10, -4, 12, 0, 12, -2, 4, 32, -9, -7, 78, -79}

Expected output = 174

Explanation:

The input array contains four sequences of POSITIVE numbers, i.e. "32, 26, 92", "12, 0, 12", "4, 32", and "78". The first and second sequences "32, 26, 92" and "12, 0, 12" are the longest of the four as they contain 4 elements each. Therefore, the expected output = sum of the longest sequence of POSITIVE numbers = (32 + 26 + 92) + (12 + 0 + 12) = 174.

For example:

Input	Result
16 -12 -16 12 18 18 14 -4 -12 -13 32 34 -5 66 78 78 -79	62
11 -22 -24 -16 -1 -17 -19 -37 -25 -19 -93 -61	-1
16 -58 32 26 92 -10 -4 12 0 12 -2 4 32 -9 -7 78 -79	174

Answer: (penalty regime: 0 %)

```
1  import java.util.Scanner;
2
3  public class LongestPositiveSequenceSum {
4      public static void main(String[] args) {
5          Scanner scanner = new Scanner(System.in);
6          int n = scanner.nextInt();
7          int[] arr = new int[n];
8
9          for (int i = 0; i < n; i++) {
```

```
10              arr[i] = scanner.nextInt();
11          }
12
13          int maxLength = 0, currentLength = 0, maxSum = 0, currentSum = 0;
14          boolean hasPositive = false;
15
16          for (int i = 0; i < n; i++) {
17              if (arr[i] >= 0) {
18                  hasPositive = true;
19                  currentLength++;
20                  currentSum += arr[i];
21              } else {
22                  if (currentLength > maxLength) {
23                      maxLength = currentLength;
24                      maxSum = currentSum;
25                  } else if (currentLength == maxLength) {
26                      maxSum += currentSum;
27                  }
28                  currentLength = 0;
29                  currentSum = 0;
30              }
31          }
32
33          if (currentLength > maxLength) {
34              maxSum = currentSum;
35          } else if (currentLength == maxLength) {
36              maxSum += currentSum;
37          }
38
39          System.out.println(hasPositive ? maxSum : -1);
40      }
41 }
```

	Input	Expected	Got	
✓	16 -12 -16 12 18 18 14 -4 -12 -13 32 34 -5 66 78 78 -79	62	62	✓
✓	11 -22 -24 -16 -1 -17 -19 -37 -25 -19 -93 -61	-1	-1	✓
✓	16 -58 32 26 92 -10 -4 12 0 12 -2 4 32 -9 -7 78 -79	174	174	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 5.00

Given an integer array as input, perform the following operations on the array, in the below specified sequence.

1.   Find the maximum number in the array.

2.   Subtract the maximum number from each element of the array.

3.   Multiply the maximum number (found in step 1) to each element of the resultant array.

After the operations are done, return the resultant array.

Example 1:

input1 = 4 (represents the number of elements in the input1 array)

input2 = {1, 5, 6, 9}

Expected Output = {-72, -36, 27, 0}

Explanation:

Step 1: The maximum number in the given array is 9.

Step 2: Subtracting the maximum number 9 from each element of the array:

{(1 - 9), (5 - 9), (6 - 9), (9 - 9)} = {-8, -4, -3, 0}

Step 3: Multiplying the maximum number 9 to each of the resultant array:

{(-8 x 9), (-4 x 9), (3 x 9), (0 x 9)} = {-72, -36, -27, 0}

So, the expected output is the resultant array {-72, -36, -27, 0}.

Example 2:

input1 = 5 (represents the number of elements in the input1 array)

input2 = {10, 87, 63, 42, 2}

Expected Output = {-6699, 0, -2088, -3915, -7395}

Explanation:

Step 1: The maximum number in the given array is 87.

Step 2: Subtracting the maximum number 87 from each element of the array:

{(10 - 87), (87 - 87), (63 - 87), (42 - 87), (2 - 87)} = {-77, 0, -24, -45, -85}

Step 3: Multiplying the maximum number 87 to each of the resultant array:

{(-77 x 87), (0 x 87), (-24 x 87), (-45 x 87), (-85 x 87)} = {-6699, 0, -2088, -3915, -7395}

So, the expected output is the resultant array {-6699, 0, -2088, -3915, -7395}.

Example 3:

input1 = 2 (represents the number of elements in the input1 array)

input2 = {-9, 9}

Expected Output = {-162, 0}

Explanation:

Step 1: The maximum number in the given array is 9.

Step 2: Subtracting the maximum number 9 from each element of the array:

{(-9 - 9), (9 - 9)} = {-18, 0}

Step 3: Multiplying the maximum number 9 to each of the resultant array:

{(-18 x 9), (0 x 9)} = {-162, 0}

So, the expected output is the resultant array {-162, 0}.

Note: The input array will contain not more than 100 elements

For example:

Input	Result
4 1 5 6 9	-72 -36 -27 0

Input	Result
5 10 87 63 42 2	-6699 0 -2088 -3915 -7395
2 -9 9	-162 0

Answer: (penalty regime: 0 %)

```java
import java.util.Scanner;

public class ArrayOperations {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int n = scanner.nextInt();
        int[] arr = new int[n];

        for (int i = 0; i < n; i++) {
            arr[i] = scanner.nextInt();
        }

        int max = arr[0];
        for (int i = 1; i < n; i++) {
            if (arr[i] > max) {
                max = arr[i];
            }
        }

        for (int i = 0; i < n; i++) {
            arr[i] = (arr[i] - max) * max;
        }

        for (int num : arr) {
            System.out.print(num + " ");
        }
    }
}
```

	Input	Expected	Got	
✓	4 1 5 6 9	-72 -36 -27 0	-72 -36 -27 0	✓
✓	5 10 87 63 42 2	-6699 0 -2088 -3915 -7395	-6699 0 -2088 -3915 -7395	✓
✓	2 -9 9	-162 0	-162 0	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

You are provided with a set of numbers (array of numbers).

You have to generate the sum of specific numbers based on its position in the array set provided to you.

This is explained below:

Example 1:

Let us assume the encoded set of numbers given to you is:

input1:5 and input2: {1, 51, 436, 7860, 41236}

Step 1:

Starting from the 0th index of the array pick up digits as per below:

0th index – pick up the units value of the number (in this case is 1).

1st index - pick up the tens value of the number (in this case it is 5).

2nd index - pick up the hundreds value of the number (in this case it is 4).

3rd index - pick up the thousands value of the number (in this case it is 7).

4th index - pick up the ten thousands value of the number (in this case it is 4).

(Continue this for all the elements of the input array).

The array generated from Step 1 will then be – {1, 5, 4, 7, 4}.

Step 2:

Square each number present in the array generated in Step 1.

{1, 25, 16, 49, 16}

Step 3:

Calculate the sum of all elements of the array generated in Step 2 to get the final result. The result will be = 107.

Note:

1)   While picking up a number in Step1, if you observe that the number is smaller than the required position then use 0.

2)   In the given function, input1[] is the array of numbers and input2 represents the number of elements in input1.

Example 2:

input1: 5 and input1: {1, 5, 423, 310, 61540}

Step 1:

Generating the new array based on position, we get the below array:

{1, 0, 4, 0, 6}

In this case, the value in input1 at index 1 and 3 is less than the value required to be picked up based on position, so we use a 0.

Step 2:

{1, 0, 16, 0, 36}

Step 3:

The final result = 53.

For example:

Input	Result
5 1 51 436 7860 41236	107
5 1 5 423 310 61540	53

Answer: (penalty regime: 0 %)

```
1   import java.util.Scanner;
2
3   public class EncodedSum {
4       public static void main(String[] args) {
5           Scanner scanner = new Scanner(System.in);
```

```
 6          int n = scanner.nextInt();
 7          int[] arr = new int[n];
 8
 9 ▾        for (int i = 0; i < n; i++) {
10              arr[i] = scanner.nextInt();
11          }
12
13          int sum = 0;
14
15 ▾        for (int i = 0; i < n; i++) {
16              int num = arr[i];
17              int digit = 0;
18
19 ▾            for (int j = 0; j <= i; j++) {
20                  digit = num % 10;
21                  num /= 10;
22              }
23
24              sum += digit * digit;
25          }
26
27          System.out.println(sum);
28      }
29 }
30
```

	Input	Expected	Got	
✓	5 1 51 436 7860 41236	107	107	✓
✓	5 1 5 423 310 61540	53	53	✓

Passed all tests! ✓

◄ Lab-03-MCQ

Jump to...

Simple Encoded Array ►

Status	Finished
Started	Tuesday, 1 October 2024, 9:16 AM
Completed	Thursday, 3 October 2024, 8:53 AM
Duration	1 day 23 hours

Question **1**

Correct

Marked out of 5.00

Consider the following sequence:

1st term: 1

2nd term: 1 2 1

3rd term: 1 2 1 3 1 2 1

4th term: 1 2 1 3 1 2 1 4 1 2 1 3 1 2 1

And so on. Write a program that takes as parameter an integer n and prints the nth terms of this sequence.

Example Input:

1

Output:

1

Example Input:

4

Output:

1 2 1 3 1 2 1 4 1 2 1 3 1 2 1

For example:

Input	Result
1	1
2	1 2 1
3	1 2 1 3 1 2 1
4	1 2 1 3 1 2 1 4 1 2 1 3 1 2 1

Answer: (penalty regime: 0 %)

```java
import java.util.Scanner;
public class Sample
{
    public static String print(int n)
    {
        if(n==1)
        return "1";
        else
        {
            String rec = print(n-1);
            return rec+" "+n+" "+rec;
        }
    }
    public static void main(String args[])
    {
        Scanner scn = new Scanner(System.in);
int n = scn.nextInt();
        System.out.println(print(n));
    }
}
```

	Input	Expected	Got	
✓	1	1	1	✓
✓	2	1 2 1	1 2 1	✓

	Input	Expected	Got	
✓	3	1 2 1 3 1 2 1	1 2 1 3 1 2 1	✓
✓	4	1 2 1 3 1 2 1 4 1 2 1 3 1 2 1	1 2 1 3 1 2 1 4 1 2 1 3 1 2 1	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 5.00

You and your friend are movie fans and want to predict if the movie is going to be a hit!

The movie's success formula depends on 2 parameters:

the acting power of the actor (range 0 to 10)

the critic's rating of the movie (range 0 to 10)

The movie is a hit if the acting power is excellent (more than 8) or the rating is excellent (more than 8). This holds true except if either the acting power is poor (less than 2) or rating is poor (less than 2), then the movie is a flop. Otherwise the movie is average.

Write a program that takes 2 integers:

the first integer is the acting power

second integer is the critic's rating.

You have to print Yes if the movie is a hit, Maybe if the movie is average and No if the movie is flop.

Example input:

9 5

Output:

Yes

Example input:

1 9

Output:

No

Example input:

6 4

Output:

Maybe

For example:

Input	Result
9 5	Yes
1 9	No
6 4	Maybe

Answer: (penalty regime: 0 %)

```java
1  import java.util.Scanner;
2
3  public class MoviePrediction {
4      public static void main(String[] args) {
5          Scanner scanner = new Scanner(System.in);
6          int actingPower = scanner.nextInt();
7          int rating = scanner.nextInt();
8
9          if (actingPower < 2 || rating < 2) {
10             System.out.println("No");
11         } else if (actingPower > 8 || rating > 8) {
12             System.out.println("Yes");
13         } else {
14             System.out.println("Maybe");
15         }
16     }
17 }
18
```

	Input	Expected	Got	
✓	9 5	Yes	Yes	✓
✓	1 9	No	No	✓
✓	6 4	Maybe	Maybe	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

Write a program that takes as parameter an integer n.

You have to print the number of zeros at the end of the factorial of n.

For example, 3! = 6. The number of zeros are 0. 5! = 120. The number of zeros at the end are 1.

Note: n! < 10^5

Example Input:

3

Output:

0

Example Input:

60

Output:

14

Example Input:

100

Output:

24

Example Input:

1024

Output:

253

For example:

Input	Result
3	0
60	14
100	24
1024	253

Answer: (penalty regime: 0 %)

Reset answer

```java
1  import java.util.Scanner;
2  public class FactorialTrailingZeros {
3      public static void main(String[] args) {
4          Scanner scanner = new Scanner(System.in);
5                  int n = scanner.nextInt();
6                  System.out.println(countTrailingZeros(n));
7                  scanner.close();
8      }
9      public static int countTrailingZeros(int n) {
10         int count = 0;
11         for (int i = 5; n / i >= 1; i *= 5) {
12             count += n / i;
13         }
14         return count;
15     }
16 }
17
```

	Input	Expected	Got	
✓	3	0	0	✓
✓	60	14	14	✓
✓	100	24	24	✓
✓	1024	253	253	✓

Passed all tests! ✓

◄ Lab-02-MCQ

Jump to...

Lab-03-MCQ ►

Status	Finished
Started	Tuesday, 1 October 2024, 9:06 AM
Completed	Tuesday, 1 October 2024, 9:14 AM
Duration	8 mins 31 secs

Question **1**

Correct

Marked out of 5.00

Write a program to find whether the given input number is Odd.

If the given number is odd, the program should return 2 else It should return 1.

Note: The number passed to the program can either be negative. positive or zero. Zero should NOT be treated as Odd.

For example:

Input	Result
123	2
456	1

Answer: (penalty regime: 0 %)

```java
import java.util.*;
class prog{
    public static void main(String args[]){
        Scanner s=new Scanner(System.in);
        int n=s.nextInt();

        if(n%2==0)
            System.out.println("1");
        else
            System.out.println("2");

    }
}
```

	Input	Expected	Got	
✓	123	2	2	✓
✓	456	1	1	✓

Passed all tests! ✓

Question **2**

Correct

Marked out of 5.00

Write a program that returns the last digit of the given number. Last digit is being referred to the least significant digit i.e. the digit in the ones (units) place in the given number.

The last digit should be returned as a positive number.

For example,

if the given number is 197, the last digit is 7

if the given number is -197, the last digit is 7

For example:

Input	Result
197	7
-197	7

Answer: (penalty regime: 0 %)

```java
1  import java.util.*;
2  class prog{
3      public static void main(String args[])
4      {
5          Scanner s=new Scanner(System.in);
6          int n=s.nextInt();
7          System.out.println(Math.abs(n%10));
8      }
9      }
10
```

	Input	Expected	Got	
✓	197	7	7	✓
✓	-197	7	7	✓

Passed all tests! ✓

Question **3**

Correct

Marked out of 5.00

Rohit wants to add the last digits of two given numbers.

For example,

If the given numbers are 267 and 154, the output should be 11.

Below is the explanation:

Last digit of the 267 is 7

Last digit of the 154 is 4

Sum of 7 and 4 = 11

Write a program to help Rohit achieve this for any given two numbers.

Note: Tile sign of the input numbers should be ignored.

i.e.

if the input numbers are 267 and 154, the sum of last two digits should be 11

if the input numbers are 267 and -154, the slim of last two digits should be 11

if the input numbers are -267 and 154, the sum of last two digits should be 11

if the input numbers are -267 and -154, the sum of last two digits should be 11

For example:

Input	Result
267 154	11
267 -154	11
-267 154	11
-267 -154	11

Answer: (penalty regime: 0 %)

```java
import java.util.*;
class prog{
    public static void main(String args[]){
        Scanner s=new Scanner(System.in);
        int n1=s.nextInt();
        int n2=s.nextInt();
        System.out.println(Math.abs(n1%10)+Math.abs(n2%10));
    }
}
```

	Input	Expected	Got	
✓	267 154	11	11	✓
✓	267 -154	11	11	✓
✓	-267 154	11	11	✓
✓	-267 -154	11	11	✓

Passed all tests! ✓

◄ Lab-01-MCQ

Jump to...

Is Even? ►