Rajalakshmi Engineering College

Name: MRIDHULA DEVI M
Email: 240701337@rajalakshmi.edu.in
Roll no:
Phone: 9840329629
Branch: REC
Department: CSE - Section 8
Batch: 2028
Degree: B.E - CSE

Scan to verify results

2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 1_CY

Attempt : 1
Total Mark : 40
Marks Obtained : 40

Section 1 : Coding

1. Problem Statement

Mandy is working on a cybersecurity project that involves basic encryption techniques. She wants to write a program that takes an integer number and performs a bitwise XOR operation to flip all the bits.

Help Mandy in this encryption using bitwise operations.

Input Format

The input consists of an integer N, representing the number to be flipped.

Output Format

The output displays "Result: " followed by an integer representing the result of the bitwise XOR operation to flip all the bits.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 0

Output: Result: 255

Answer

```
// You are using Java
import java.util.*;
class main{
    public static void main(String[] args){
        Scanner s=new Scanner(System.in);
        int a=s.nextInt();
        int c=a^255;
        System.out.print("Result: "+c);
    }
}
```

Status : Correct ***Marks : 10/10***

2. Problem Statement

In the faraway land of Arithmetica, there exists an ancient calculator that can only perform bitwise operations. The calculator is locked with a secret code that only works when the number is modified using a special operation called right shifting.

The ruler of Arithmetica, King Thales, needs your help to unlock the calculator. The lock on the calculator is encoded with a number, and the calculator will only open if you apply a right shift by 2 on the number. Your task is to help King Thales determine the magic number that will unlock the ancient calculator.

Input Format

The first line of input represents an integer.

Output Format

The output should display the right-shifted value by 2 bits.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 16

Output: 4

Answer

```
// You are using Java
import java.util.*;
class main{
   public static void main(String[] args){
      int a;Scanner s=new Scanner(System.in);
      a=s.nextInt();int c=a>>2;
      System.out.print(c);
   }
}
```

Status : Correct ***Marks : 10/10***

3. PROBLEM STATEMENT:

Jule a mathematician expert is given two integers to find if the second integer is above the average of the first and second integer. Write a program that achieves this using the ternary operator.

Input Format

The first line of input represents the first integer.

The second line of input represents the second integer.

Output Format

The output should be displayed as "Below Average" or "Above Average"

REFER THE SAMPLE TESTCASES FOR THE FORMAT SPECIFICATIONS.

Sample Test Case

Input: 1
1

Output: Below Average

Answer

```
// You are using Java
import java.util.*;
class main{
   public static void main(String[] args){
      Scanner s=new Scanner(System.in);
      int a=s.nextInt();
      int b=s.nextInt();
      float avg=(a+b)/2;
      if(b>avg){
         System.out.print("Above Average");
      }
      else{
         System.out.print("Below Average");
      }
   }
}
```

Status : Correct ***Marks : 10/10***

4. Problem Statement:

Gilbert is tasked with writing a program that checks whether a given integer is an odd number. An odd number is one that cannot be exactly divided by 2. The program should take an integer as input and determine if it is an odd number or not. The task is to implement the logic to check if the provided integer is odd and return the result.

Input Format

The first line of the input contains an integer, "input".

Output Format

The output should display a boolean value, "result," which should be set to true if the input integer is an odd number and false if it is even.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 0

Output: Is the integer odd? false

Answer

```
// You are using Java
import java.util.*;
class main{
   public static void main(String[] args){
      Scanner s=new Scanner(System.in);
      int a=s.nextInt();
      if(a%2!=0){
         System.out.print("Is the integer odd? true");
      }
      else{
         System.out.print("Is the integer odd? false");

      }
   }
}
```

Status : Correct ***Marks : 10/10***