

# IRC\_JAVA\_CODING CONTEST 1

## Test Summary

- No. of Sections: 1
- No. of Questions: 5
- Total Duration: 60 min

## Section 1 - Coding

### Section Summary

- No. of Questions: 5
- Duration: 60 min

### Additional Instructions:

None

Q1.

Help Lost Child

Harry, a little boy was accompanied by his Dad to visit the "Aquatica Carnival". The event saw a large crowd and the Security Chiefs found it hard to control them. Very regretfully, Harry got lost and was seen extremely worried. He wanted to reach back home as soon as possible. He was standing currently at coordinates (x1, y1) in 2-D plane. His home is at coordinates (x2, y2). Please help him by giving a command by telling the direction in which he should go, so as to reach his home. If you give him a direction, he will keep moving in that direction till he reaches home. There are four possible directions you can give as command - "left", "right", "up", "down". It might be possible that you can't instruct Harry in such a way that he reaches his home. In that case, display the output as "sad".

### Input Format

First line of the input contains four space separated integers x1, y1, x2, y2.

### Output Format

Output a single line containing "left" or "right" or "up" or "down" or "sad" (without quotes).

Sample Input

0 0 1 0

Sample Output

right

Sample Input

0 0 1 1

Sample Output

sad

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q2.

Aayush's Scholarship

Aayush studies in Teswan National University. Now is the time for exam results. Aayush similar to other students, hopes that his scores in 5 subjects in the exam could fetch him a scholarship for his GRE preparation. The following simple rules are used to find whether he is eligible to receive scholarship:

- University follows 5 point grading system. In an exam, a student can receive any score from 2 to 5. 2 is called an F grade, meaning that student has failed that exam.
- Student should not have fail any of the exams.
- Student must obtain a full score in some of his/her exams to show that he/she is excellent in some of the subjects.
- He/She must have a grade point average not less than 4.0

You are given information regarding how Aayush performed in those 5 subjects . Help him determine whether he will receive the scholarship or not.

### Input Format

The input contains 5 space separated integers denoting Aayush's 5 subjects score in the exam.

### Output Format

Output - "Yes" (without quotes) if Aayush will receive scholarship, or "No" (without quotes) otherwise. Print the average as shown in the sample output in second line

Sample Input

Sample Output

3 5 4 4 3	No Average : 3.0
-----------	---------------------

Sample Input

Sample Output

3 4 4 4 5	Yes Average : 4.0
-----------	----------------------

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q3.       **Total Expenses**

The much awaited event at the entertainment industry every year is the "Screen Awards". This year the event is going to be organized on December 25 to honour the Artists for their professional excellence in Cinema. The Organizers has this time decided to launch an online portal to facilitate easy booking of the Award show’s tickets.

They specifically wanted to provide an option for bulk booking in the portal, wherein there are many discounts announced. Write a program to help the Organizers to create the portal as per the requirement given below.

Given the ticket cost as 'X'.

If the number of tickets purchased is less than 50, there is no discount.

If the number of tickets purchased is between 50 and 100 (both inclusive), then 10% discount is offered.

If the number of tickets purchased is between 101 and 200(both inclusive), 20% discount is offered.

If the number of tickets purchased is between 201 and 400(both inclusive), 30% discount is offered.

If the number of tickets purchased is between 401 and 500(both inclusive), 40% discount is offered.

If the number of tickets purchased is greater than 500, then 50% discount is offered.

**Input Format**

First line of the input is an integer that corresponds to the cost of the ticket ‘X’.  
Second line of the input is an integer that corresponds to the number of tickets purchased.

**Output Format**

Output should display a double value, which gives the total expenses in purchasing the tickets after discounts. Display the output correct to 2 decimal places.

Refer sample input and output for formatting specifications.

Sample Input	Sample Output
100 5	500.00

Sample Input	Sample Output
100 300	21000.00

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q4.       **Library**

A library charges a fine for every book returned late. For the first 5 days, the fine is 50 rupee, for 6-10 days fine is 100 rupee and for above 10 days the fine is 500 rupees. If you return the book after 30 days your membership will be canceled. Write a program to accept the number of days the member is late to return the book and display the fine or the appropriate member cancellation message.

Output should be one of

- The fine is Rs.50
- The fine is Rs.100
- The fine is Rs.500
- Membership is canceled

**Input Format**

Input consists of integer value that indicates number of days

**Output Format**

Output consists of amount of fine that has to be paid.

Sample Input

3

Sample Output

The fine is Rs.50

Sample Input

31

Sample Output

Membership is canceled

Sample Input

7

Sample Output

The fine is Rs.100

Sample Input

16

Sample Output

The fine is Rs.500

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q5. **Foo**  
Write a Program if given number is divisible by 3, print "Foo" , if it divisible by 5, print "Bar", if it is divisible by 3 and 5, print "FooBar" and if it is not divisible by 3 and 5,print "None".

Input Format

The first line of the input is an integer N

Output Format

Print Foo or Bar or FooBar or None.

Constraints

1<=T<=100  
0<=N<=1000

Sample Input

21

Sample Output

Foo

Sample Input

25

Sample Output

Bar

Sample Input

30

Sample Output

FooBar

Sample Input

31

Sample Output

None

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Answer Key & Solution

Section 1 - Coding

Q1

Test Case

Input

1 1 2 1

Output

right

Weightage - 10

Input

1 1 1 2

Output

up

Weightage - 10

Input

2 1 1 1

Output

left

Weightage - 10

Input

1 2 1 1

Output

down

Weightage - 15

Input

1 3 1 7

Output

up

Weightage - 15

Input

2 2 3 3

Output

sad

Weightage - 20

Input

1 1 5 2

Output

sad

Sample Input

0 0 1 0

Sample Output

right

Sample Input

0 0 1 1

Sample Output

sad

Solution

```
import java.io.*;
import java.util.*;
class Helplostchild {
    public static void main (String [] args) {
        int x1,y1,x2,y2;
        Scanner sc = new Scanner(System.in);
        x1 = sc.nextInt();
        y1 = sc.nextInt();
        x2 = sc.nextInt();
        y2 = sc.nextInt();
        if(y1==y2)
        {
            if(x1>x2)
            {
                System.out.println("left");
            }
            else if(x2>x1)
            {
                System.out.println("right");
            }
        }
        else if(x1==x2)
        {
            if(y1>y2)
            {
                System.out.println("down");
            }
            else if(y2>y1)
            {
                System.out.println("up");
            }
        }
        else
        {
            System.out.println("sad");
        }
    }
}
```

Q2

Test Case

Input

Output

5 5 5 5 5	Yes Average : 5.0
-----------	----------------------

Weightage - 20

Input

Output

3 4 3 5 5	Yes Average : 4.0
-----------	----------------------

Weightage - 15

Input

Output

3 4 4 5 4	Yes Average : 4.0
-----------	----------------------

Weightage - 15

Input

Output

2 2 2 2 2	No Average : 2.0
-----------	---------------------

Weightage - 20

Input

Output

5 4 4 2 4	No Average : 3.0
-----------	---------------------

Weightage - 15

Input

Output

5 3 2 2 4	No Average : 3.0
-----------	---------------------

Weightage - 15

Sample Input

Sample Output

3 5 4 4 3	No Average : 3.0
-----------	---------------------

Sample Input

Sample Output

3 4 4 4 5	Yes Average : 4.0
-----------	----------------------

Solution

```
import java.util.*;
import java.io.*;
class Aayushscholarship {
    public static void main(String [] args) {
        int s1,s2,s3,s4,s5;
        float avg=0;
        Scanner sc = new Scanner(System.in);
        s1 = sc.nextInt();
        s2 = sc.nextInt();
        s3 = sc.nextInt();
        s4 = sc.nextInt();
        s5 = sc.nextInt();
        avg=(s1+s2+s3+s4+s5)/5;
        if((s1>2)&&(s2>2)&&(s3>2)&&(s4>2)&&(s5>2))
        {
            if((s1==5)|| (s2==5)|| (s3==5)|| (s4==5)|| (s5==5))
            {
                if(avg>=4) {
                    System.out.println("Yes");
                }
                else {
                    System.out.println("No");
                }
            }
            else
            {
                System.out.println("No");
            }
        }
        else
        {
            System.out.println("No");
        }
        System.out.println("Average : " +avg);
    }
}
```

Q3 **Test Case**

**Input**

258

95

**Output**

22059.00

**Weightage - 15**

**Input**

1650

150

**Output**

198000.00

**Weightage - 15**

**Input**

125

300

**Output**

26250.00

Weightage - 15

Input	Output
250 25	6250.00

Weightage - 15

Input	Output
520 600	156000.00

Weightage - 20

Input	Output
1250 2500	1562500.00

Weightage - 20

Sample Input	Sample Output
100 5	500.00

Sample Input	Sample Output
100 300	21000.00

Solution

```
import java.io.*;
import java.util.*;
import java.lang.*;
import java.text.DecimalFormat;
class Totalexpenses {
    public static void main(String [] args) {
        int cost,number;
        double total = 0, discount, amount =0.00;
        DecimalFormat d = new DecimalFormat("0.00");
        Scanner sc= new Scanner(System.in);
        cost = sc.nextInt();
        number = sc.nextInt();
        total = cost*number;
        if(number < 50) {
            System.out.println(d.format(total));
        }
        else if(number >=50 && number <=100) {
            discount = total*(0.1);
            amount = total-discount;
            System.out.println(d.format(amount));
        }
    }
}
```



```
    }
    else if(number >=101 && number <=200) {
        discount = total*(0.2);
        amount = total-discount;
        System.out.println(d.format(amount));
    }
    else if(number >= 201 && number <= 400) {
        discount = total*(0.3);
        amount = total - discount;
        System.out.println(d.format(amount));
    }
    else if(number >= 401 && number <=500) {
        discount = total*(0.4);
        amount = total - discount;
        System.out.println(d.format(amount));
    }
    else if(number > 500) {
        discount = total*(0.5);
        amount= total - discount;
        System.out.println(d.format(amount));
    }
}
```

Q4 **Test Case**

**Input**

6

**Output**

The fine is Rs.100

**Weightage - 25**

**Input**

15

**Output**

The fine is Rs.500

**Weightage - 25**

**Input**

3

**Output**

The fine is Rs.50

**Weightage - 25**

**Input**

35

**Output**

Membership is canceled

**Weightage - 25**

**Sample Input**

**Sample Output**

3	The fine is Rs.50
---	-------------------

Sample Input

Sample Output

31	Membership is canceled
----	------------------------

Sample Input

Sample Output

7	The fine is Rs.100
---	--------------------

Sample Input

Sample Output

16	The fine is Rs.500
----	--------------------

Solution

```
import java.util.Scanner;
class Main
{
    public static void main(String args[])
    {
        int a;
        Scanner in = new Scanner(System.in);
        a = in.nextInt();
        if(a>=1 && a<=5)
            System.out.println("The fine is Rs.50");
        else if(a>=5 && a<=10)
            System.out.println("The fine is Rs.100");
        else if(a>=11 && a<=30)
            System.out.println("The fine is Rs.500");
        else if(a>30)
            System.out.println("Membership is canceled");
        }
    }
```

Q5

Test Case

Input

Output

81	Foo
----	-----

Weightage - 25

Input

Output

85	Bar
----	-----

Weightage - 25

Input

90

Output

FooBar

Weightage - 25

Input

98

Output

None

Weightage - 25

Sample Input

21

Sample Output

Foo

Sample Input

25

Sample Output

Bar

Sample Input

30

Sample Output

FooBar

Sample Input

31

Sample Output

None

Solution

```
import java.util.*;
class Main{
    public static void main(String[] args){
        Scanner s=new Scanner(System.in);
        String str="";
        int n=s.nextInt();
        if(n%3==0||n%5==0){
            if(n%3==0)
                str+="Foo";
            if(n%5==0)
                str+="Bar";
        }
        else{
            str+="None";
        }

        System.out.println(str);
    }
}
```

