IRC_OOPSUSINGJAVA_LE_CA2

Test Summary

- No. of Sections: 2
- No. of Questions: 25
- Total Duration: 90 min

Section 1 - MCQ

Section Summary

- No. of Questions: 20
- Duration: 15 min

Additional Instructions:

None

Q1. Which option, inserted at line 4, produces the output 12?

```
1  public class Test {
2     public static void main(String[] args) {
3        int x = 0;
4        // insert code here
5        do {
6        } while (x++ < y);
7        System.out.println(x);
8     }
9  }
```

- int y = x;
- int y = 10;
- int y = 11;
- int y = 12;

Q2. Which of the following for loop declarations is not valid?

- for (int i = 99; i >= 0; i / 9)
- for (int i = 7; i <= 77; i += 7)
- for (int i = 20; i >= 2; --i)
- for (int i = 2; i <= 20; i = 2* i)

Q3. Here is a segment of a program, what will be the values of x and y if n=1.

```
1  x=1;
2  y=1;
3   if(n>0)
4   x=x+1;
5   y=x-1;
```

x=1, y=1

x=0, y=2

x=2, y=1

x=2, y=0

Q4. Determine output:

```
public class Test{
    public static void main(String args[]){
        int i;
        for(i = 1; i < 6; i++){
            if(i > 3) continue ;
        System.out.println(i);
        }
    }
}
```

1
2
3

1
2
3
5
6

4
5
6

6

Q5. What is the output of the below Java program with WHILE, BREAK and CONTINUE?

```
public class Test{
    public static void main(String args[]){
      int cnt=0;
      while(true)
      {
        if(cnt > 4)
          break;
        if(cnt==0)
        {
          cnt++;
          continue;
        }
        System.out.print(cnt + ",");
        cnt++;
      }
    }
}
```

0,1,2,3,4,

1,2,3,4,

1,2,3,4

Compiler error

Q6. Which of these is used to access a member of class before object of that class is created?

public

private

static

protected

Q7. What all gets printed when the following program is compiled and run.

```
1  public class Test {
2      public static void main(String args[]) {
3          int i, j = 1;
4          i = (j > 1) ? 2 : 1;
5          switch (i) {
6          case 0:
7              System.out.println(0);
8              break;
9          case 1:
10             System.out.println(1);
11         case 2:
12             System.out.println(2);
13             break;
14         case 3:
15             System.out.println(3);
16             break;
17         }
18     }
19 }
```

1

2

1
2
3

1
2

Q8. Which two are acceptable types for x?

1. byte
2. long
3. char
4. float
5. Short
6. Long

```
1  switch(x)
2  {
3     default:
4         System.out.println("Hello");
5  }
```

1 and 3

2 and 4

3 and 5

4 and 6

Q9. What will be the result?

```
1  public class Test2 {
2     public static void main(String args[]) {
3        int i = 10;
4        while (i++ <= 10) {
5           i++;
6        }
7        System.out.print(i);
8     }
9  }
10
```

10

11

12

13

Q10. What will be the result of the following code?

```
1  public class Test {
2     static public void main(String args[]) { // line 2
3        int i, j;
4        for (i = 0; i < 3; i++) {
5           for (j = 1; j < 4; j++) {
6              i %= j;
7              System.out.println(j);
8           }
9        }
10    }
11 }
```

1 2 3 1

1 2 3 2

Repeatedly print 1 2 3 and cause infinite loop.

Compilation fails because of line 2

Q11. What will be the output of the following code snippet?

```
1  public class Main {
2     public static void main(String args[]) {
3        int a = 15;
4        int b = 25;
5        if ((a < b) || (a = 5) > 15)
6           System.out.println(a);
7        else
8           System.out.println(b);
9     }
10 }
```

```
11
```

- Error
- 15
- 25
- No output

Q12. What will be the output?

```
1  public class Test {
2     public static void main(String[] args) {
3        int x = 10, y = 0;
4        if (x && y) {
5           System.out.print("TRUE");
6        } else {
7           System.out.print("FALSE");
8        }
9     }
10 }
```

- FALSE
- TRUE
- Compilation Error
- Runtime Error

Q13. What will be the output of the following program?

```
1  public class Test {
2     public static void main(String[] args) {
3        int count = 1;
4        while (count <= 15) {
5           System.out.println(count % 2 == 1 ? "***" : "+++++");
6           ++count;
7        } // endwhile
8     }// endmain
9  }
```

- 15 times ***
- 15 times +++++
- 8 times *** and 7 times +++++
- Both will print only once

Q14. What all gets printed when the following program is compiled and run?

```
1  public class Test {
2     public static void main(String args[]) {
3        int i = 0, j = 2;
4        do {
5           i = ++i;
6           j--;
7        } while (j > 0);
8        System.out.println(i);
```

```
 9     }
10  }
```

- 0
- 1
- 2
- The program does not compile because of the statement "i=++i;"

Q15. Choose the correct statement in context of the following program code.

```
1  public class Test {
2     public static void main(String[] args) {
3        double sum = 0;
4        for (double d = 0; d < 10;) {
5           d += 0.1;
6           sum += sum + d;
7        }
8     }
9  }
```

- The program has a compile error because the adjustment is missing in the for loop.
- The program has a compile error because the control variable in the for loop cannot be of the double type.
- The program runs in an infinite loop because d<10 would always be true.
- The program compiles and runs fine.

Q16. Determine output:

```
1  public class Test {
2     public static void main(String args[]) {
3        int i, j;
4        for (i = 1, j = 0; i < 10; i++)
5           j += i;
6        System.out.println(i);
7     }
8  }
```

- 10
- 11
- 9
- None of these

Q17. What will be the output of the following program?

```
1  public class Test {
2     public static void main(String args[]) {
3        int i = 0, j = 5;
4        for (; (i < 3) && (j++ < 10); i++) {
5           System.out.print(" " + i + " " + j);
```

```
        }
        System.out.print(" " + i + " " + j);
    }
}
```

- 0 6 1 7 2 8 3 8
- 0 6 1 7 2 8 3 9
- 0 6 1 5 2 5 3 5
- Compilation Error

Q18. Determine output:

```
public class Test{
    public static void main(String args[]){
        int i;
        for(i = 1; i < 6; i++){
            if(i > 3) continue ;
        }
        System.out.println(i);
    }
}
```

- 2
- 3
- 4
- 6

Q19. Determine output:

```
public class Main{
    public static void main(String args[]){
        int i;
        for(i = 1; i <= 6; i++){
            if(i == 3)
            continue ;
            System.out.println(i);
        }
    }
}
```

- 1
2
3
- 1
2
4
5
6
- 4
5
6

1
2
3
4
5
6

Q20. What all gets printed when the following program is compiled and run.

```
1  public class Test {
2     public static void main(String args[]) {
3        int i, j = 1;
4        i = (j > 1) ? 2 : 1;
5        switch (i) {
6        case 0:
7           System.out.println(0);
8           break;
9        case 1:
10          System.out.println(1);
11       case 2:
12          System.out.println(2);
13
14       case 3:
15          System.out.println(3);
16          break;
17       }
18    }
19 }
```

1

2

1
2

1
2
3

Section 2 - CODING

Section Summary

- No. of Questions: 5
- Duration: 75 min

Additional Instructions:

None

Q1. **Sum of Odd and Even Digits**
Problem Statement :
Write a java program to calculate the sum of odd and even digits in a number. The input consists of a single integer 'n' which corresponds to the given number.The output must display the sum of odd numbers and even numbers.

Input Format

The input consists of a number.

Output Format

The output prints the sum of odd and even digits.

Sample Input

```
3924209420352
```

Sample Output

```
The sum of the odd digits are 29
The sum of the even digits are 16
```

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

Q2. **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

```
100
5
```

Sample Output

```
500.00
```

Sample Input

```
100
300
```

Sample Output

```
21000.00
```

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

Q3. **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

Q4. **Foobar**

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

Q5. **Problem statement:**

write a java program to print this pattern.

```
*
**
***
****
*****
```

Input Format

The first input consists of the N value.

Output Format

Refer to the sample output for the pattern to be printed.

Sample Input

```
4
```

Sample Output

```
*
* *
* * *
* * * *
```

Sample Input

```
5
```

Sample Output

```
*
* *
* * *
* * * *
```

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

Answer Key & Solution

Section 1 - MCQ

Q1

int y = 11;

Solution

int y = 11;

Q2

for (int i = 99; i >= 0; i / 9)

Solution

for (int i = 99; i >= 0; i / 9)

Q3

x=2, y=1

Solution

x=2, y=1

Q4

1

2

3

Solution

6

Q5

1,2,3,4,

Solution

JDB

Q6

static

Solution

static

Q7

1

2

Solution

12

Q8

1 and 3

Solution

1 and 3

Q9

13

Solution

13

Q10

Repeatedly print 1 2 3 and cause infinite loop.

Solution

Repeatedly print 1 2 3 and cause infinite loop.

Q11

15

Solution

15

Q12

Compilation Error

Solution

Compilation Error

Q13

8 times *** and 7 times +++++

Solution

8 times *** and 7 times +++++

Q14

2

Solution

2

Q15

The program compiles and runs fine.

Solution

The program compiles and runs fine.

Q16

10

Solution

10

Q17

0 6 1 7 2 8 3 8

Solution

0 6 1 7 2 8 3 8

Q18

6

Solution

6

Q19

1

2

4

5

6

Solution

6

Q20

1

2

3

Solution

No Solution

Section 2 - CODING

Q1

Test Case

Input	Output
12349823429342513	The sum of the odd digits are 37 The sum of the even digits are 28

Weightage - 25

Input	Output
3453294829342123	The sum of the odd digits are 36 The sum of the even digits are 28

Weightage - 25

Input

```
3333333333333
```

Output

```
The sum of the odd digits are 39
The sum of the even digits are 0
```

Weightage - 25

Input

```
44444444444444
```

Output

```
The sum of the odd digits are 0
The sum of the even digits are 56
```

Weightage - 25

Sample Input

```
3924209420352
```

Sample Output

```
The sum of the odd digits are 29
The sum of the even digits are 16
```

Solution

```
import java.util.*;
class Main
{
    public static void main(String args[])
{
    Scanner sc=new Scanner(System.in);
    long a[]=new long[14];
    int i;
    long sum=0;
    long sum1=0;
    long sum2=0;
   long n=sc.nextLong();
   while(n>0)
   {

   long x=n%10;
   sum=(sum*10)+x;
   n=n/10;
            if(x%2==0)
            {
                sum1=sum1+x;
            }else
            {
                sum2=sum2+x;
            }

    }System.out.println("The sum of the odd digits are "+sum2);
    System.out.println("The sum of the even digits are "+sum1);
}

}
```

Q2

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

```
250
25
```

Output

```
6250.00
```

Weightage - 15

Input

```
520
600
```

Output

```
156000.00
```

Weightage - 20

Input

```
1250
2500
```

Output

```
1562500.00
```

Weightage - 20

Sample Input

```
100
5
```

Sample Output

```
500.00
```

Sample Input

```
100
300
```

Sample Output

```
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));
        }
    }
}
```

Q3

Test Case

Input	Output
6	The fine is Rs.100

Weightage - 25

Input	Output
15	The fine is Rs.500

Weightage - 25

Input	Output
3	The fine is Rs.50

Weightage - 25

Input	Output
35	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");
```

```
}
}
```

Q4

Test Case

Input	Output
81	Foo

Weightage - 25

Input	Output
85	Bar

Weightage - 25

Input	Output
90	FooBar

Weightage - 25

Input	Output
98	None

Weightage - 25

Sample Input **Sample Output**

21	Foo

Sample Input **Sample Output**

25	Bar

Sample Input **Sample Output**

30	FooBar

Sample Input **Sample Output**

31	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);
        }
}
```

Q5

Test Case

Input

```
3
```

Output

```
*
* *
* * *
```

Weightage - 25

Input

```
2
```

Output

```
*
* *
```

Weightage - 25

Input

```
1
```

Output

```
*
```

Weightage - 25

Input

```
7
```

Output

```
*
* *
* * *
* * * *
```

Weightage - 25

Sample Input

```
4
```

Sample Output

```
*
* *
* * *
* * * *
```

Sample Input

```
5
```

Sample Output

```
*
* *
* * *
* * * *
```

Solution

```
import java.util.*;
class Main
{
    public static void main(String[] args)
    {
        int rows;
        Scanner s=  new Scanner(System.in);
        rows=s.nextInt();
        for (int i = 1; i <= rows; ++i)
        {  //Outer loop for rows

            for (int j = 1; j <= i; ++j)
            { //Inner loop for Col
                 System.out.print("* "); //Print *
            }
        System.out.println(); //New line
         }
    }
}
```