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Degree :BE-EEE

2021_25_IV_JAVA Programming (ECE/EEE)_IRC

IRC_Java_D5_Java Looping2_CE_COD

Attempt : 1
Total Mark : 50
Marks Obtained : 50

Section 1 : CODING

1. Problem statement

Write a program to print x pattern of the given odd length string. It should contain two methods namely main and pattern. The main method should pass the inputs to the pattern.

Refer sample output for formatting specifications.

Answer

```
// You are using Java
import java.util.Scanner;
class Ques1
{
   public static void main(String[]args)
   {
     Scanner x=new Scanner(System.in);
     String str=x.nextLine();
     int len=str.length();
     for(int i=0;i<str.length();i++)
     {
       int k=str.length()-1-i;
       for(int j=0;j<str.length();j++)
```

```
        {
          if((i==j)||(j==k))
          {
             System.out.print(str.charAt(j));
          }
          else
          {
             System.out.print(" ");
          }
        }
        System.out.println();
      }
    }
}
```

Status : Correct   *Marks : 10/10*

2. Problem statement

Write a program to print the following pattern.

Example:

input: 4

output:

1

0 1

1 0 1

0 1 0 1

Answer

```
// You are using Java
import java.util.Scanner;
class Ques2
{
   public static void main(String[]args)
   {
      Scanner x=new Scanner(System.in);
```

```
        int n=x.nextInt();
        for(int i=0;i<n;i++)
        {
            int start=1;
            if(i%2==0)
            start=1;
            else
            start=0;
            for(int j=0;j<=i;j++)
            {
                System.out.print(start+" ");
                start=1-start;
            }
            System.out.println();
        }
    }
}
```

Status : Correct   *Marks : 10/10*

3. Problem statement

Hari is a civil engineer who is designing a fountain in square shape with water sprinklers in the edges with n number of steps. He needs to draw a sketch of the fountain in top view with the step number at the edges of the square.

Write a program to help him in printing the pattern with n number of steps.

Answer

```
// You are using Java
import java.util.Scanner;
class Ques3
{
    public static void main(String[]args)
    {
        Scanner x=new Scanner(System.in);
        int row=x.nextInt();
        int col=(2*row)-1;
        for(int i=1;i<=row;i++)
        {
```

```java
         for(int j=1;j<=col;j++)
         {
            if((j==i)||(j==col))
            System.out.print(i);
            else
            System.out.print(" ");
            System.out.print(" ");
         }
         col--;
         System.out.println();
      }
      col+=2;
      for(int i=row-1;i>=1;i--)
      {
         for(int j=1;j<=col;j++)
         {
            if((j==i)||(j==col))
            System.out.print(i);
            else
            System.out.print(" ");
            System.out.print(" ");
         }
         col++;
         System.out.println();
      }
   }
}
```

Status : Correct   *Marks : 10/10*

4. Problem statement

Hari is a civil engineer who is designing a fountain in square shape with water sprinklers in the edges with n number of steps. He needs to draw a sketch of the fountain in top view with the plot of ' * ' at the edges of the square and the sides of the outer square.

Write a program to help him in printing the pattern with n number of steps.

Answer

// You are using Java

```java
import java.util.Scanner;
class Ques4
{
    public static void main(String[]args)
    {
        Scanner x=new Scanner(System.in);
        int n=x.nextInt();
        int i,j,k,c=0;
        c=k=n*2-1;
        for(i=1;i<=n;i++)
        {
            for(j=1;j<=k;j++)
            {
                if((j==i) || (j==c) || (i==1) || (j==1) || (j==k))
                {
                    System.out.print(" * ");
                }
                else
                {
                    System.out.print("   ");
                }
            }
            c--;
            System.out.println();
        }
        c+=2;
        for(i=n-1;i>=1;i--)
        {
            for(j=1;j<=k;j++)
            {
                if((j==i) || (j==c) || (i==1) || (j==1) || (j==k))
                {
                    System.out.print(" * ");
                }
                else
                {
                    System.out.print("   ");
                }
            }
            c++;
            System.out.println();
        }
```

```
      }
}
```

Status : Correct   *Marks : 10/10*

5. Problem statement

Deepa was ready to make a sketch for a rangoli, In her design, there is a square inscribed in her square. The edges of the inner square meet the center point of the sides of the outer circle.

She knows only about the number of points needed to draw one side of the inner square.

Write a program to help her draw the sketch.

Answer

```java
// You are using Java
import java.util.*;
class Ques5
{
   public static void main(String[] args)
   {
      Scanner sc=new Scanner(System.in);
      int rows=sc.nextInt();
      int i,j,col=(rows*2)-1;
      for(i=rows;i>=1;i--)
      {
         for(j=1;j<=col;j++)
         {
            if(j<=i){
            System.out.print("* ");}
            else if(j>col-i){
            System.out.print("* ");}
            else {System.out.print("  ");}
            System.out.print(" ");
         }
         System.out.println();
      }
```

```
    for(i=2;i<=rows;i++)
    {
        for(j=1;j<=col;j++)
        {
            if(j<=i){
            System.out.print("* ");}
            else if(j>col-i){
            System.out.print("* ");}
            else {System.out.print("  ");}
            System.out.print(" ");
        }
        System.out.println();
    }
    sc.close();
    }
}
```

Status : Correct   *Marks : 10/10*