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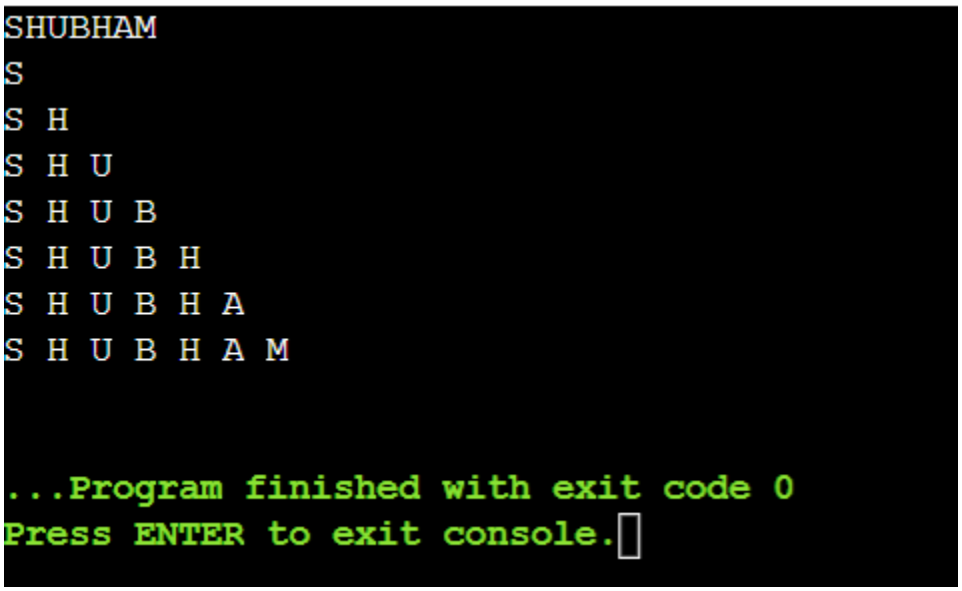
oop-lab-2

PROGRAM-1: Write Code for below given pattern.

<<CODE>>

```
import java.util.*;
public class Main
{
        public static void main(String[] args) {

          Scanner sc=new Scanner(System.in);
         String s1;
         s1=sc.next();

         int n;
         n=s1.length();

         for(int i=0;i<n;i++)
         {
            for(int j=0;j<n;j++)
            {
                if(i>=j)
                {
                    System.out.print(s1.charAt(j)+" ");
                }
                else{
                     System.out.print(" ");
                }

            }
               System.out.print("\n");

          }


        }
```

}
<<OUTPUT>>



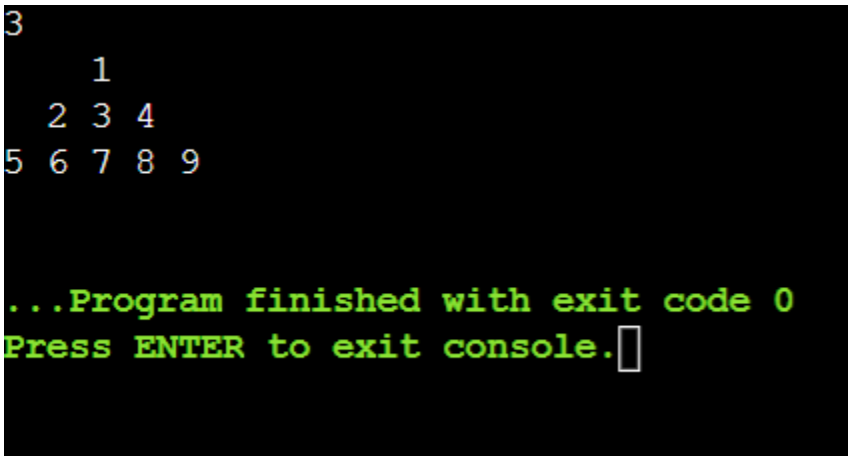
PROGRAM-2:Write Code for below given pattern(star pattern).

<<CODE>>

```
import java.util.*;
public class Main
{
        public static void main(String[] args) {

          Scanner sc=new Scanner(System.in);

         int n;
         n=sc.nextInt();
         int p=1;

         for(int i=1;i<=n;i++)
         {
            for(int j=1;j<=2*n-1;j++)
            {
               if(j>=n-i+1 && j<=n+i-1)
                {
```

```
                System.out.print(p+" ");
                p++;

            }
              else
              {
                  System.out.print("  ");
              }
          }
            System.out.print("\n");

       }


      }

}
```

<<OUTPUT>>



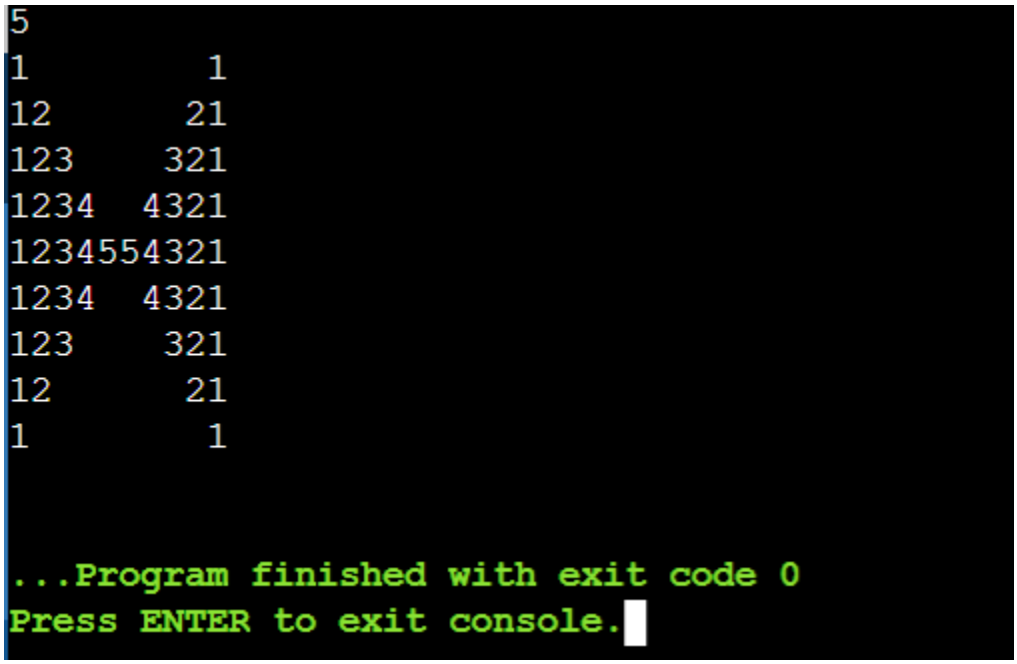
PROGRAM-3: Write Code for below given pattern.

<<CODE>>

```
import java.util.*;
public class Main
{
        public static void main(String[] args) {
                Scanner sc=new Scanner(System.in);
```

```
                int n=sc.nextInt();
                int i,j;

        for( i=1;i<=2*n-1;i++)
        {
           for( j=n;j>=1;j--)
           {
              if(i<=n+(j-1) && i>=n-(j-1))
              {
                 System.out.print(n-j+1);
              }
              else
              {
               System.out.print(" ");
              }

           }
           for( j=1;j<=n;j++)
           {
              if(i<=n+(j-1) && i>=n-(j-1))
              {
                 System.out.print(n-j+1);
              }
              else
              {
               System.out.print(" ");
              }
           }
           System.out.print("\n");
        }


           }
}
```

<<OUTPUT>>



PROGRAM-4:The daily maximum temperature (in degree Celsius) recorded in 10 cities during a week have
been tabulated as follows

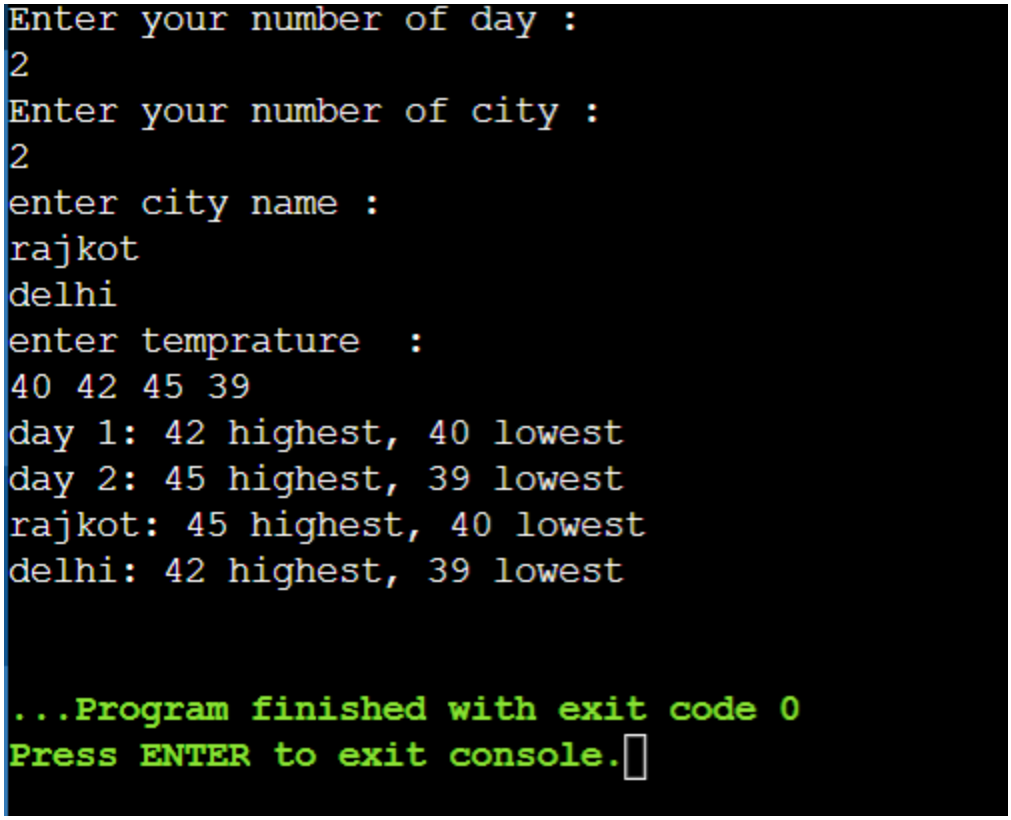
<<CODE>>

```
import java.util.*;
public class Main
{
	public static void main(String[] args) {
		Scanner sc=new Scanner(System.in);
		System.out.println("Enter your number of day :");
		int n=sc.nextInt();
		System.out.println("Enter your number of city :");
		int m=sc.nextInt();
```

```
                int day[]=new int[n];
                String city[]=new String[m];
                int tem[][]=new int[n][m];

//              for(int i=1;i<=n;i++)
//              {
//                  s1[i]=i;
//              }
System.out.println("enter city name :");
                for(int i=0;i<m;i++)
                {
                    city[i]=sc.next();
                }
System.out.println("enter tem  :");
                for(int i=0;i<n;i++)
                {
                   for(int j=0;j<m;j++)
                   {
                     tem[i][j]=sc.nextInt();
                   }
                }
                int a,max,min,max1,min1;

                for(int i=0;i<n;i++)
                {
                 max=tem[i][0];
                 min=tem[i][0];

                a=i+1;

                   for(int j=0;j<m;j++)
                   {

                       if(max<tem[i][j])
                       {
                           max=tem[i][j];
                       }

                       else if(min>tem[i][j])
                       {
                           min=tem[i][j];
                       }
```

```
                }
                System.out.println("day "+a+": "+max+" highest, "+min+" lowest ");
            }

            for(int i=0;i<m;i++){

                                max1=tem[0][i];
                 min1=temp[0][i];
                for(int k=0;k<m;k++)
                {


                    if(max1<tem[k][i])
                    {
                        max1=tem[k][i];
                    }

                    else if(min1>tem[k][i])
                    {
                        min1=tem[k][i];
                    }


                }
                System.out.println(city[i]+": "+max1+" highest, "+min1+" lowest ");

            }

        }
}
```

<<OUTPUT>>



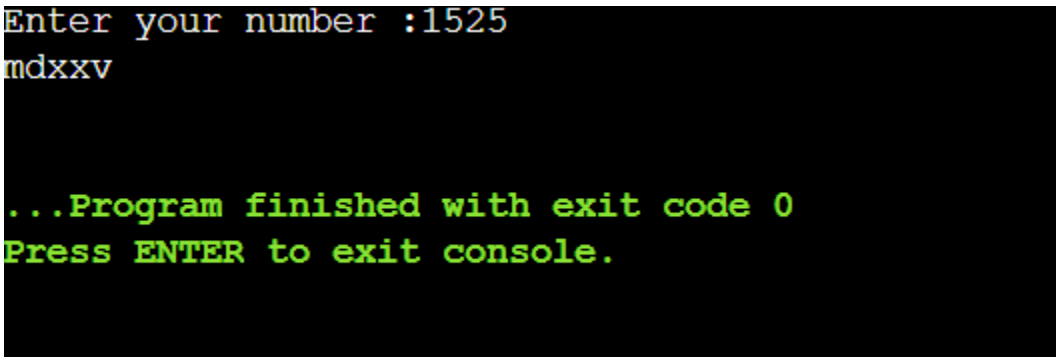
PROGRAM-5:Write a general-purpose function getRoman() to convert any given year into its roman
equivalent and print it. The following table shows the roman equivalents of decimal numbers:

<<CODE>>

```
import java.util.*;

public class Main
{
   public static void getRoman(int n)
   {
      int a[]={1000,900,500,400,100,90,50,40,10,9,5,4,1};
      String b[]={"m","cm","d","cd","c","xc","l","xl","x","ix","v","iv","i"};
      String ans="";

      for(int i=0;i<a.length;i++)
```

```
        {
           while(n>=a[i])
          {
           n=n-a[i];
           ans=ans.concat(b[i]);

          }

        }
        System.out.println(ans);

    }
          public static void main(String[] args) {
                    Scanner sc=new Scanner(System.in);
                    System.out.print("Enter your number :");
                    int n=sc.nextInt();


                    getRoman(n);



          }
}
```

<<OUTPUT>>



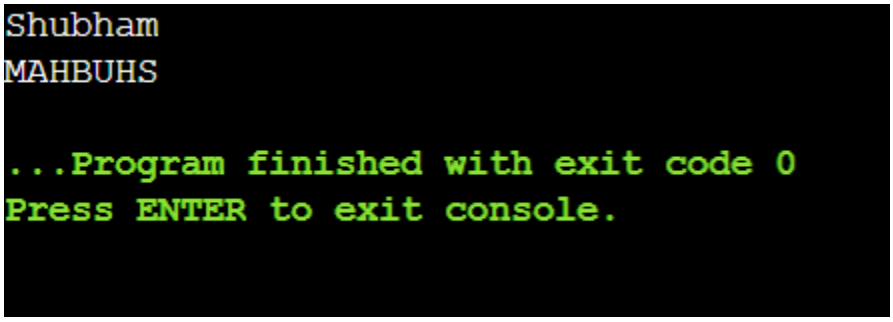
PROGRAM-6:Write a program which will read a string, convert it to uppercase, reverse it and rewrite.

<<CODE>>

```
import java.util.*;
public class Main
{
        public static void main(String[] args) {

            Scanner sc=new Scanner(System.in);

                String str;
                str=sc.next();

                StringBuilder s1=new StringBuilder(str);

                int n;
                n=s1.length();

                for(int i=0;i<n/2;i++)
                {
                   int f=i;
                   int b=n-1-i;

                   char f_c=s1.charAt(f);
                   char b_c=s1.charAt(b);

                   s1.setCharAt(f,b_c);
                   s1.setCharAt(b,f_c);

        }

                for(int i=0;i<n;i++){
                   if(s1.charAt(i)>='A' && s1.charAt(i)<='Z')
                   System.out.print((char)(s1.charAt(i)));

                else
                System.out.print((char)(s1.charAt(i)-32));


                }
```

```
        }
}
```

<<OUTPUT>>



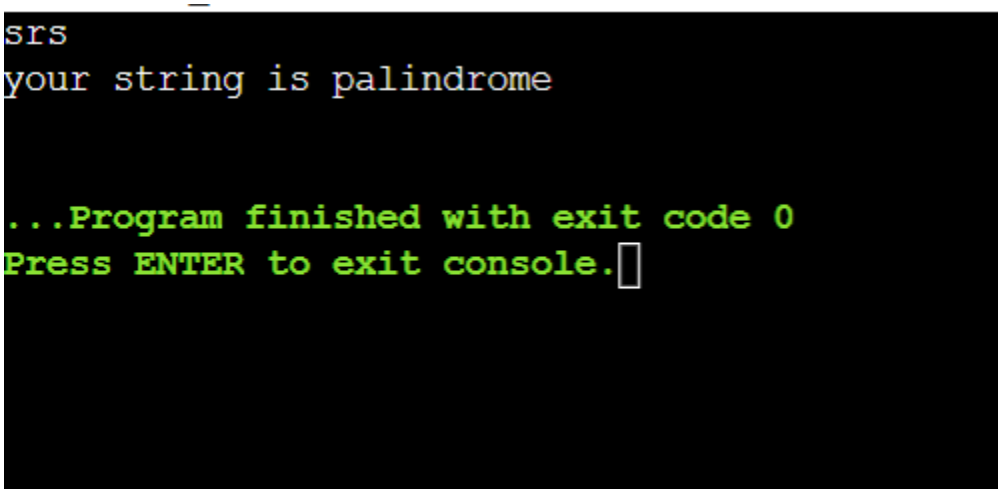
PROGRAM-7:Write a program that reads a string from the user and determines, if it is a palindrome or not.

<<CODE>>

```
import java.util.*;
public class Main
{
        public static void main(String[] args) {

            Scanner sc=new Scanner(System.in);

                String str,str2;
                str=sc.next();

                StringBuilder s1=new StringBuilder(str);

                int n;
                n=s1.length();

                for(int i=0;i<n/2;i++)
                {
                   int f=i;
```

```
                int b=n-1-i;

                char f_c=s1.charAt(f);
                char b_c=s1.charAt(b);

                s1.setCharAt(f,b_c);
                s1.setCharAt(b,f_c);

            }


        str2=s1.toString();


        if(str.equals(str2))
        {
           System.out.println("your string is palindrome");
        }
        else
        {
           System.out.println("your string is not palindrome");
        }


        }
}
```

<<OUTPUT>>



PROGRAM-8:Write a program to replace a particular word by another word in a given string.

<<CODE>>

```
import java.util.*;
public class Main
{
        public static void main(String[] args) {

           Scanner sc=new Scanner(System.in);
           System.out.print("Your  sentence is:");

                String str,str2,word1,word2;

                str=sc.nextLine();

                 System.out.print("Your  word is:");
                 word1=sc.next();

                  System.out.print("your replace word is:" );
                  word2=sc.next();


                 str2=str.replaceAll(word1,word2);

                 System.out.print(str2);}}
```

<<OUTPUT>>

```
Your  sentence is:it is good to program in pascal language
Your  word is:pascal
your replace word is:c
it is good to program in c language

...Program finished with exit code 0
Press ENTER to exit console.
```

PROGRAM-9:Write program of your choice that demonstrate the use of following string manipulation functions.

<<CODE>>

```
import java.util.*;

public class Main
{

	public static void main(String[] args) {
		Scanner sc=new Scanner(System.in);
		System.out.print("Enter your String :");
		String str =sc.next();
		System.out.print("Enter your number for what to do :");
		int n=sc.nextInt();

		switch(n)
		{
		   case 1:
		     {
		        System.out.print("Enter your new String for concat :");
		        String str2=sc.next();

		        System.out.println(str.concat(str2));
		        break;

		     }

		    case 2:
		      {
		         System.out.print("Enter your new String for check conains or not :");
		         String str2=sc.next();
		         if(str.contains(str2))
		         {
		            System.out.print("true");
		         }
		         else{
		            System.out.print("false");
		         }
		      break;
		      }
		    case 3:
		      {
		         System.out.print("Enter your new String for check startsWith new string
or not :");

		         String str2=sc.next();
```

```
                    if(str.startsWith(str2))
                    {
                        System.out.print("true");
                    }
                    else{
                        System.out.print("false");
                    }

                    break;

                }
                case 4:
                    {
                      System.out.print("Enter your new String for check endsWith new string
or not :");
                      String str2=sc.next();

                      if(str.endsWith(str2))
                      {
                          System.out.print("true");
                      }
                       else{
                       System.out.print("false");
                    }
                    break;
                    }

                case 5:
                    {
                        System.out.println("Enter your index for check new string is substring
or not :");

                        System.out.println("Enter Your starting index: ");
                        int  n1=sc.nextInt();
                        System.out.println("Enter Your ending index: ");
                        int n2=sc.nextInt();

                       System.out.print("your substring"+" "+str.substring(n1,n2));

                    break;
                    }

                case 6:
                    {
```

```
                    System.out.print(" for check length :");
                   System.out.println(str.length());
                   break;
                }

             case 7:
                {
                    System.out.print("Enter your Character for check first occurrence   :");
                    String c=sc.next();
                    System.out.print("Enter your index :");
                    int n1=sc.nextInt();
                    System.out.print(str.indexOf(c,n1));
                    break;
                }

             case 8:
                {
                    System.out.print("Enter your 1st string :");
                    String str1=sc.next();
                    System.out.print("Enter your 2nd string :");
                    String str2=sc.next();

                    str=str.replace(str1,str2);
                    System.out.print(str);
                    break;
                }

                default:
                {
                   System.out.println("Enter number between 1 to 8 ");

    }
        }}}
```

<<OUTPUT>>

```
Enter your String :shubham
Enter your number for what to do :7
Enter your Character for check first occurrence   :a
Enter your index :0
5

...Program finished with exit code 0
Press ENTER to exit console.
```