JAVA
PROGRAMMING.

NAME : S.V. TANUSHRI
REGNO : 192321163
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ASSIGNMENT NO: 3

21. Write a Program to Print the following Pattern

```
%.
%. %.
% %. %.
```

```java
import java.util.Scanner
public class PrintPattern
{
    Public Static void main(String[] args)
    {
        Scanner input=new Scanner(System.in);
        Char c = input.next().charAt(0);
        int n = input.nextInt();
        for(int i=1; i<=n; i++)
        {
            for(int j=1; j<=i; j++)
            {
                System.out.print(c);
            }
            System.out.println();
        }
    }
}
```

22. Find the year of the given date is leap year or not.

```java
import java.util.Scanner;
Public class ak
{
    Public static void main (String[] args)
    {
        Scanner input = new Scanner (System.in)
        System.Out.Print ("Enter year:");
        String year = input.next();
        String a[] = year.Split ("/");
        String d = a[2];
        int num = Integer.ParseInt (d);
        if ((num % 4 == 0 && num % 100 != 0) ||
                                num % 400 == 0)
            System.Out.println ("It's a leap year");
        else
            System.Out.println ("Not a leap year");
    }
}
```

23. Find the number of factors for the given number.

```java
import java.util.Scanner
Public class factors
{
    Public static void main (String[] args)
    {
        Scanner input = new Scanner (System.in)
        int n = input.nextInt();
```

```java
int factors = 0;
for (int i = 1; i <= n; i++)
{
    if (n% i == 0)
        factors = factors + 1;
}
System.out.Print ("no: of factors = " +
                                  factors);
Scanner input = new Scanner(System.in);
int n = input.nextInt();
int factors = 0;
for (int i = 1; i <= n; i++)
{
    if (n% i == 0)
        factors++;
}
System.out.Print (factors);
}
}
```

24. Write a program to print the given numbers is Perfect numbers or not?

```java
import java.util. Scanner
Public class Perfectnumber
{
    Public Static Void main (String[] args)
    {
        Scanner input = new Scanner (System.in);
        int n = input.nextInt();
        int factors = 0;
        for (int i = 1; i < n; i++)
        {
            if (n% i == 0 )
```

```
            factors = factors + i;
        }
        if (n == factors)
            System.out.print ("It's a Perfect
                                    number");
    }
}
```

25. Write a Program to Print the number of vowels in the given statement?

```
import java.util.Scanner;
Public class vowels{
{
    Public static void main (String[] args)
    {
        Scanner input = new Scanner (System.in);
        String name = input.nextLine();
        int len = name.length();
        char a[] = new char [len];
        int vow = 0;
        for (int i=0; i< len; i++)
        {
            a[i] = name . charAt(i);
            if (a[i]=='a' || a[i]=='e' || a[i]=='i' ||
                a[i]=='o' || a[i]=='u' || a[i]=='A' ||
                a[i]=='E' || a[i]=='I' || a[i]=='O' ||
                a[i]=='u')
                vow = vow + 1;
        }
        System.out.println (vow);
    }
}
```

26. Write a program to print consonants and vowels separately in the given word

```java
import java.util.Scanner;
Public class ConsonantVowelSeparator
{
    Public static void main (String[] args)
    {
        Scanner input = new Scanner (System.in);
        String name = input.nextLine(), vowels="",
                                        consonants="";
        for (char c: name.toCharArray())
            if ("AEIOUaeiou".indexOf (c)!=-1)
                vowels += c+" ";
            else
                consonants += c+" ";
        System.out.println ("consonants:"+
                                consonants.trim());
        System.out.println ("Vowels:"+
                                vowels.trim());
    }
}
```

27. Write a program to print the fibonacci series.

```java
import java.util.Scanner;
Public class fibonacci
{
    Public static void main(String[] args)
    {
        Scanner input = new Scanner (System.in);
        int n = input.nextInt();
        int a1 = 0, a2 = 1;
```

```java
for (int i=0; i<n; i++)
{
    System.out.print(a1 + " ");
    int a3 = a1 + a2;
    a1 = a2;
    a2 = a3;
}
}
}
```

28. Write a Program to find the Square, Cube of the given decimal number.

```java
import java.util.Scanner;
Public class SquareCube
{
    Public void static Void main (String[]args)
    {
        Scanner input = new Scanner(System.in);
        float n = input.nextfloat();
        System.out.print("Square:" + (n*n));
        System.out.print("Cube:" + (n*n*n));
    }
}
```

29. Program to find the frequency of each element in the array.

```java
import java.util.Hashmap;
import java.util.Map;
Public class FrequencyCounter
{
    Public Static void main (String[] args)
    {
        int[]a = {1,2,8,3,2,2,2,6,1};
        Map<integer, integer> freq = new Hashmap
                                            <>():
        for (int num : a) freq.Put(num, freq.
                                getOrDefault(num,0)+1):
        freq.forEach((key, value)-> System.out.
                        Println(key+"|"+value));
    }
}
```

30. Write a program to print the given number is perfect number or not?

```java
import java.util.Scanner;
Public class Perfect number
{
    Public Static void main (String[] args)
    {
        Scanner input = new Scanner(System.in)
        int n = input.nextInt();
        int factors = 0;
        for (int i=1; i<n; i++)
        {
```

```java
            if (n%.i ==0)
                factors = factors +i;
        }
        if (n== factors)
            System.out.Print ("It's a Perfect
                                number");
    }
}
```