21) PRINT THE PATTERN :-

```java
import java.util.Scanner,
public    class Pattern {
        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) LEAP YEAR OR NOT

```java
import java.util.Scanner;
public   class Java {
            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 ("/");
```

```java
String d = a[2];
int num = Integer.parseInt(d);
if ((num%4==0 && num%100!=0)|| num%400==0)
    System.out.println("It is a leap year");
else
    System.out.println("It is not a leap year");
```

23) FIND THE NUMBER OF FACTORS

```java
import java.util.Scanner;
public class Java{
    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 +1;
        }
        System.out.print("Number of factors : "+factors);
```

24) PERFECT NUMBER OR NOT :-

```java
import java.util.Scanner;
public class Perfect {
    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)
```

```java
                factors = factors + 1;
            }
        if (n == factors)
            System.out.print("It is a Perfect number");
        else
            System.out.print("It is not a Perfect number");
```

25) PRINT THE NUMBER OF VOWELS

```java
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) PRINT HOLLOW SQUARE SYMBOL PATTERN :-

```java
import java.util.Scanner;
public class Square {
        public static void main (String [] args) {
            Scanner input = new Scanner (System.in);
            int n = 5;
            char c = input.next().charAt(0);
            for (int i=1; i<=n; i++)
            {
                for (int j=1; j<=n; j++)
                {
                    if (i==1 || j==1 || i==n || j==n)
                        System.out.print (c+" ");

                    else
                        System.out.print (" ");
                }
            System.out.println();

            }

        }

}
```

27) 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;
            for (int i=0; i<n; i++)
            {
                System.out.print (a1+" ");
```

```java
        int a3 = a1 + a2;
        a1 = a2;
        a2 = a3 ;
    }
  }
}
```

2) PRIN THE PATTERN

```java
import java. util . Scanner;
public  class NumPattern {
        public static void main (String [] args) {
        Scanner input = new Scanner (System.in);
        int n = input. nextInt ();
        for (int i = 1; i <= n; i++)
        {  for (int j = 1; j <= i ; j++)
            {  System. out. print (i);
            }
            System. out. println ();

        }
    }
}
```

29) FIND SQUARE, CUBE OF THE GIVEN DECIMAL NUMBER

```java
import java.util.Scanner;
public class SquareCube {
    public 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));
    }
}
```

30) FIND THE FREQUENCY OF EACH ELEMENT IN THE ARRAY

```java
import java.util.Scanner;
import java.util.Arrays;
public class ak {
    public static void main (String [] args){
        Scanner input = new Scanner(System.in);
        int a[] = new int [] {1,2.8,3,2,2,2,5,1};
        int t[] = new int [a.length];
        int visited = -1;
        for (int i=0; i<a.length; i++)
        {
            int count = 1;
            for (int j=i+1; j<a.length; j++)
            {
                if (a[i] == a[j])
                {
                    count ++;
                    t[j] = visited;
                }
            }
        }
```

```
        if (t[i] != visited ;
            t[i] = count ;

}
    for (int i=0 ; i < a.length; i++)
    {
        if (t[i] != visited )
            System. out. println (a[i] + "      " + t[i]);

    }

}

}
```