19 Factorial

```
pubic class Factoria{
    public static void main{
        int n = 5;
        int fact=1;
        for (int i=1 ; i<=n; i++){
            fact = fact* i ;
        }
        System.out.print(fact);
    }
}
```

20) Pattern (Y.)

```
public class pattern {
    public static void main (String[] args){
        char c = '%';
        int n = 5;
        for (int i = 1; i<n ; i++) {
            for (int j = i+1; j<=n=i; j++) {
                System.out.print(c);
            }
            System.out.println();
        }
    }
}
```

21) Leap Year

```
public class LeapYear{
    public static void main() {
        Scanner input = new Scanner(System.in);
        System.out.print(" Enter Year: ");
        String year = input.next();
        String a[] = year.split("/");
        String d = a[2];
        if ((num%4==0) && (num%100 != 0) || num%400==0)
            System.out.println("It is leap year");
        else
            system.out.println("Non leap year");
    }
}
```

22) Factors:-

```
public class Factors {
    public static void main(String [] args) {
        int n=6, factors=0;
        for(int i=1; i<=n; i++) {
            if (n%i==0) {
                factors=factors+1;
            }
        }
        System.out.print("No.of factors= "+factors);
```

23) Perfect Number

```
public class perfect {
    public static void main(String[] args) {
        int n=6, factors=0;
        for(int i=1; i<n; i++) {
            if (n%i==0)
                factors=factors+i;
        if (n==factors)
            System.out.print("Perfect Number");
```

24) Vowels

```
public class vowels {
    public static void main { String[] args){
        String n = " Saveetha";
        String x = n. toLowerCase();
        int y = 0;
        int len = x. length();
        for (int i = 0 ; i < len ; i++) {

            if ( x[i] == 'a' || x[i] == 'e' || x[i] == 'i' ||
                x[i] == 'o' || x[i] == 'u') {
                    y++;

            }
        }
        System.out.println(y);
    }
}
```

25)

```
public class vowels {
    public static void main ( String [] args) {
        String name = " Saveetha";
        char a[] = new char[len];
        char vow[] = new char[len];
        char con[] = new char[len];
        int v=0, c=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'){
                vow[v] = a[i];
                v++;
            }
        }
```

```
        else{
            con[c] = a[i];
            c++;
        }

    System.out("consonants: ");
    for(int i=0; i<v; i++){
        System.out.print(vow[i]);
    }
    System.out.print("vowels: ");
    for(int j=0; j<c; j++){
        System.out.print(con[j]);
    }
```

26) Fibonacci series

```
public class fibonacci{
    public static void main(String[] args){
        int n=5, a1=0, a2=1;
        for(int i=0; i<n; i++){
            System.out.print(a1+" ");
            int a3=a1+a2;
            a1=a2;
            a2=a3;
        }
    }
```

27) Pattern $\binom{1}{2\ 2}$

```
public class pattern{
    public static void main(String[] args){
        int n=5;
        for(int i=1; i<=n; i++){
            for(int j=1; j<=i; j++){
                System.out.print(i);
            }
            System.out.println();
        }
```

28) Square / Cube:

```
pubic class math {
    public static void main (String[] args) {
        float n = 0.6;
        System.out.println ( n*n );
        System.out.println (n*n*n);
    }
}
```

29) Frequency :-

```
import java.util.Arrays;
import java.util.Scanner;
public class ak {
    public ~~class~~ 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]);
                }
            }
        }
```

30) Hollow square

```
public class square {
    public static void main(String[] args){
        int n=5;
        char c= input.next().charAt(0);
        for(int i=1; i<=n; i++){
            if(i==1 || j==1 || i==n || j==n){
                System.out.print(c+" ");
            else
                System.out.print("  ");
        }
        System.out.println();
    }
}
```