31.) Factorial of n

```
Public Class factorial {
    Public Static Void Main (String [] args) {
        int n=6, fact=1;
        for(int i=1; i<=n; i++){
            fact = fact * i;
        }
        System.out.print(n + "factorial = " + fact);
    }
}
```

32.) Pattern $\begin{pmatrix} 1^n \\ 2^n & 3^n \end{pmatrix}$

```
Public Class Pattern {
    Public Static Void main (String [] args) {
        int n=5; k=1;
        for(int i=1; i<n; i++){
            for(int j=1; j<=i; j++){
                System.out.print(k+" ");
                k++;
            }
            System.out.println();
        }
    }
}
```

33.) Composite Number

```
Public Class Composite{
    Public Static Void main (String[] args){
        int arr[]={16,18,27,16,23,21,19};
        int len=arr.length; Count=0;
        for(int i=0; i<len; i++){
            int c=0;
            for(int j=1; j<100; j++){
                if(arr[i]%j==20){
                    c++;
                }
            }
            if(c>2){
                Count++;
            }
        }
        System.out.println(Count);
    }
}
```

34.) N^th Odd Number

```
Public StaticClass oddNumber{
    Public Static Void main(String[] args){
        int n=4;
        int arr[]=new int[100];
        int j=1;
        for(int i=1; i<100; i++){
            if(i%2!=0){
                arr[j]=i;
            } j++;
```

```
    }
    System.out.print(arr[n*2]);
    }
}
```

35.) String Indexing

```
Public class StringIndexing{
Public Static Void main (String []args){
String Str = "I am a Programme";
Character [] = new Char [Str.length()];
for (int i=0; i< len; i++){
    arr[i] = Str.length(i);
    if(arr[i]==()){
        System.out.print("Found at "+(i+1));
        x=1;
        }
    }
    if(x==0){
        System.println("Character not found");
    }
}
}
```

36.) Pattern $\begin{pmatrix} 1 \\ 2 & 2 \\ 1 \end{pmatrix}$

```
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();
}
for(int i=n-1; i>=1; i--){
    for(int j=1; j<=i; j++){
        System.out.print()
    }
        system.out.println();
    }
}
```

37.) ArmStrong Number

```
Public class ArmStrong Number {
    Public Static Void main (String[] args){
        int num=153, org=n, arm=0;
        While(num!=0){
            num1 = num1/0;
        }
        else{
            System.out.println("Not ArmStrong");
        }
    }
}
```

38.) Write a program to print first n perfect number.

```
int total = (a1+a2+a3+a4);
float agg = total 1460;
System.out = print in(total);
System.out = print in(agg);
if (agg 75); {
```

System out. print ln ("distance"); }
else if (agg) = 60 (agg < 45)
System. out. print inc first, Division;
else if (agg > 40, agg < 50)
system. out. print ("third division")
age. System out print in ();

39.) Write a program to calculate given the following condition

Scanner input = new Scanner (system. in);
int income = input. next input();
float taxi
if (income < 15000) {
System. out. println ("tax" income/10); }
else if (income >= 30000 income <= 50000) {
System. out. println ("tax=" + income '20');
else
system. out print ln ("tax=" + income '30');

40.) Write a program to enter the six marks of a student in Subject

int total = ($a_1 + a_2 + a_3 + a_4$)
System. out. println ("total");
System. out. println ("age");
if (age 75)
Systen. out. println ("distinction");
else
System (agg = 60 "agg < 75"); {
System. outPrintln ("second division"); }
else