1. Check if number is odd or even.

```
class Oddeven
{
public static void main(String[]args)
{
int n ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the number : ");
n = sc . nextInt();
if(n%2==0)
{
System.out.println("It is an even number : " +n);
}
else
{
System.out.println("It is an odd number : " +n);
}
}
}
```

2. Factorial of a number.

```
class Factorial
{
public static void main(String[] args)
{
int n ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number : ");
n = sc . nextInt ( ) ;
int fact=1;
for(int i=n; i >=1;i--)
{
fact=fact*  i ;
}
System.out.println("Factorial of a number : " + fact);
}
}
```

3. To find Fibonacci series for 1st ten number or within the range 100 using for loop.

```
class Fibonacii1
{
public static void main(String[] args)
```

```
{
int a=0,b=1;
System.out.print(a+ " " +b+ " ");
for(int i=1;i<=10;i++)
{
int c=a + b;
System.out.print(c+ " ");
a=b;
b=c;
}
}
}
```

4. To find Fibonacci series for 1st ten number or within the range 100 using while loop.

```
class Fibonacci2
{
public static void main(String[] args)
{
int a=0,b=1;
System.out.print(a+ " " +b+ " ");
int i=1;
while(i<=10)
{
int c= a +b;
System.out.print(c+ " ");
a=b;
b=c;
i++;
}
}
}
```

5. To check given number is prime number or not.

```
class Primeno1
{
public static void main(String[] args)
{
int n ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number: ");
n = sc . nextInt ( ) ;
boolean flag=true;
for(int i=2;i<n; i++)
```

```
{
if( n % i==0 )
{
flag=false;
break;
}
}
if(flag==true)
{
System.out.println("It is a prime number : " + n);
}
else
{
System.out.println("It is not a prime number : " + n);
}
}
}
```

6. To check given number is prime number or not (range of input).

```
class Primeno2
{
public static void main(String[] args)
{
for(int k=2;k<=100;k++)
{
int n=k;
boolean flag=true;
for(int i=2;i<n ; i++)
{
if(n % i ==0)
{
flag=false;
break;
}
}
if(flag==true)
{
System.out.println("It is a prime number : " +n);
}
}
}
}
```

7. To find sum of digits of a given number.

```
class Sum
{
public static void main(String[] args)
{
int n ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number : ");
n = sc . nextInt ( ) ;
int sum=0;
while(n!=0)  {
int rem = n % 10 ;
sum = sum + rem ;
n = n / 10;
}
System.out.println("Sum of a number : " +sum);
}
}
```

8. To check whether given number is a Armstrong no or not

```
class Armstrongno
{
public static void main(String[] args)
{
int n ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number :  ");
n = sc . nextInt ( ) ;
int copy=n;
int sum=0;
while(n!=0)
{
int rem = n  % 10 ;
sum = sum + ( rem * rem * rem ) ;
n = n / 10;
}
if(sum == copy)
{
System.out.println("It is Armstrong number : "+copy);
}
else
{
System.out.println("It is not Armstrong number : "+copy);
}
}
```

```
}
```

9. To check given number is strong or not.

```
class Strongno
{
public static void main(String[]args)
{
int n ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number : ");
n = sc . nextInt ( ) ;
int sum=0;
int fact=1;
int copy=n;
while(n!=0) {
int rem=n%10;
for(int i=rem ; i>=1;i--)
{
fact=fact*i;
}
sum=sum + rem;
n=n/10;
}
if(copy==sum) {
System.out.println("It is Strong no : " +copy);
}
else
{
System.out.println("It is not Strong no : " +copy);
}
}
}
```

10. To check or count how many Binary digit are present in given number.

```
class Binarycount
{
public static void main(String[]args)
{
int n ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number : ");
n = sc . nextInt ( ) ;
int count=0;
while(n!=0)
```

```
{
int rem=n%10;
if(rem==0 || rem==1)
{
count++;
}
n=n/10;
}
System.out.println(count);
}
}
```

11. To count the number of digits in a given number.

```
class Digitcount
{
public static void main(String[] args)
{
int n ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number : ");
n = sc . nextInt ( ) ;
int count=0;
while(n!=0)
{
n=n/10;
count++;
}
System.out.println("count of a number : " +count);
}
}
```

12. Reverse a given number.

```
class Reverseno
{
public static void main(String[]args)
{
int n ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number : ");
n = sc . nextInt ( ) ;
int rev=0;
while(n!=0)
{
int rem=n%10;
```

```
rev=rev*10+rem;
n=n/10;
}
System.out.println("reverse of the number is : " + rev);
}
}
```

13. To check whether the given number is palindrome or not.

```
class Palindromeno
{
public static void main(String[]args)
{
int n ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number : ");
n = sc . nextInt ( ) ;
int rev=0;
int copy=n;
while(n!=0)
{
int rem=n%10;
rev=rev*10+rem;
n=n/10;
}
if(copy==rev)
{
System.out.println("palindrome number is : " +copy);
}
else
{
System.out.println("Not palindrome number is : " +copy);
}
}
}
```

14. To print the tables .

```
class Tables
{
public static void main(String []args)
{
int n ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number : ");
n = sc . nextInt ( ) ;
```

```
for(int i=1;i<=10;i++)
{
System.out.println(n+"*"+i+"="+(n*i));
}
}
}
```

15. To find the power of a number.

```
class Powerno
{
public static void main(String[] args)
{
int n , p ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the number : ");
n = sc.nextInt();
System.out.println("Enter the power : ");
p = sc.nextInt();
double result = Math.pow(n, p);
System.out.println(n+"^"+p+"="+result);
}
}
```

16. To compute the quotient and remainder.

```
class Quetrem
{
public static void main(String[] args)
{
int a , b ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the value for a and b : ");
a = sc.nextInt();
b = sc.nextInt();
int quot = a / b ;
int rem = a % b ;
System.out.println("Quotient : "+quot);
System.out.println("Remainder : "+rem);
}
}
```

17. To find the simple interest.

```
class SimpleInterest
{
public static void main(String[] args)
```

```
{
float p ,t ,r ,Si;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the principal : ");
p = sc . nextFloat();
System.out.println("Enter the Time period  : ");
t = sc . nextFloat();
System.out.println("Enter the Rate of interest : ");
r = sc . nextFloat();
Si = (p*t*r)/100;
System.out.println("Simple interest is : " +Si);
}
}
```

18. To find the compound interest.

```
class Compoundinterest
{
public static void main(String[] args)
{
int p , t , n ;
double r ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the principal : ");
p = sc . nextInt();
System.out.println("Enter the Time period  : ");
t = sc . nextInt();
System.out.println("Enter the Rate of interest : ");
r = sc . nextDouble();
System.out.println("Enter the number :");
n= sc.nextInt();
double amount = p * Math.pow(1 + (r / n), n * t);
double compinterest = amount - p;
System.out.println("Compound Interest after " + t + " years :
"+compinterest);
System.out.println("Amount after " + t + " years : "+amount);
}
}
```

19. To reverse a String using for loop.

```
class Reversestring1
{
public static void main(String[] args)
{
String s1 ;
```

```
Scanner sc = new Scanner(System.in);
System.out.println("Enter the String  :");
s1=sc.nextLine();
String s2 = " ";
for(int i=s1.length()-1;i>=0;i--)
{
s2 = s2 + s1.charAt(i) ;
}
System.out.println("reverse String is : "+s2) ;
}
}
```

20. To reverse a String using while loop.

```
class Reversestring2
{
public static void main(String[] args)
{
String s1 ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the String  :");
s1=sc.nextLine();
String s2 = " ";
int i=s1.length()-1;
while (i>=0)
{
s2 = s2 + s1.charAt(i) ;
i--;
}
System.out.println("reverse String is : "+s2 ) ;
}
}
```

21. To reverse a String without using loop.

```
class Reversestring3
{
static String s1="java";
static String s2 = " ";
public static void main(String[] args)
{
int x=s1.length()-1;
disp(x);
System.out.println(s2) ;
}
static void disp(int n)
{
```

```
if( n >= 0 )
{
s2 = s2 + s1.charAt(n) ;
n--;
disp(n);
}
}
}
```

22. To check whether a String is palindrome or not.

```
class Palindromestring
{
public static void main(String[] args)
{
String s1 ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the String  :");
s1=sc.nextLine();
String s2 = " ";
for(int i=s1.length()-1;i>=0;i--)
{
s2 = s2 + s1.charAt(i);
}
if(s1.equals(s2))
{
System.out.println("It is a palindrome : "+s2) ;
}
else
{
System.out.println("It is not a palindrome : "+s2) ;
}
}
}
```

23. To accept a character , determine whether the character is a lowercase or uppercase.

```
class Character
{
public static void main(String[] args)
{
char ch='R';
if(ch>='A' && ch<='Z')
{
System.out.println("It is a uppercase character : " + ch);
```

```
}
else if(ch>='a' && ch<='z')
{
System.out.println("It is a lowercase character : " + ch);
}
}
}
```

24. To find the area and circumference of the circle.

```
class Circle
{
public static void main(String[] args)
{
int r ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number : ");
r = sc . nextInt ( ) ;
final double pi=3.142;
double area = pi*r*r;
double circum = 2*pi*r;
System.out.println("Area of the Circle : " + area);
System.out.println("Circumference of the Circle : " + circum);
}
}
```

25. To convert days into years , months and days.

```
class Days
{
public static void main(String[] args)
{
int totaldays ;
int days ,  months , years;
Scanner sc = new  Scanner(System .in ) ;
System.out.println("Enter the totaldays : ");
totaldays = sc . nextInt();
years = totaldays/365;
totaldays = totaldays%365;
months = totaldays/30;
days = totaldays%30;
System.out.println("Years : " + years);
System.out.println("Months : " + months);
System.out.println("Days : " + days);
}
}
```

26. To find grade of the student.

```
class Grade
{
public static void main(String[] args)
{
int marks ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the marks : ");
marks = sc . nextInt ( ) ;
if(marks>=85 && marks<=100)
System.out.println("Distinction : " + marks);
else if (marks>=60)
System.out.println("First class : " + marks);
else if(marks>=50)
System.out.println("Second class : " + marks);
else if(marks>=35)
System.out.println("Pass : " + marks);
else
System.out.println("Fail : " + marks);
}
}
```

27. To find the largest of two numbers.

```
class Largest2no
{
public static void main(String[] args)
{
int a , b ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the value of and b : ");
a = sc.nextInt() ;
b = sc.nextInt() ;
int large=a;
if(b>large)
large=b;
System.out.println("Largest number is : " + large);
}
}
```

28. To find the largest , smallest and second largest of three numbers.

```
class Largest3no
{
public static void main(String[] args)
```

```
{
int a , b , c ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the value of a , b and c : ");
a = sc.nextInt();
b = sc.nextInt();
c = sc.nextInt();
int largest=a;
int smallest=a;
if(b>largest)
largest=b;
if(c>largest)
largest=c;
if(b<smallest)
smallest=b;
if(c<smallest)
smallest=c;
int seclargest=(a + b + c) - (largest + smallest);
System.out.println("Largest number is : " + largest);
System.out.println("Second largest number is : " + seclargest);
System.out.println("Smallest number is : " + smallest);
}
}
```

29. To check whether that year is leap year or not.

```
class Leapyear
{
public static void main(String[] args)
{
int year ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the year : ");
year = sc . nextInt ( ) ;
if(year%4 == 0 && year!=100 || year%400 == 0)
System.out.println("It is a Leap year : " + year);
else
{
System.out.println("It is not a Leap year :" + year);
}
}
}
```

30. To find the square and cube of a number .

```
class sqrcube
{
public static void main(String[] args)
{
int a ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the number :");
a = sc . nextInt ( ) ;
int square = a * a;
int cube = a * a * a;
System.out.println("Square of the number : " +square);
System.out.println("Cube of the number : " +cube);
}
}
```

31. To convert the temperature in Fahrenheit into Celsius

```
class Temperature
{
public static void main(String[] args)
{
double Fahren ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the Fahrenheit :");
Fahren = sc . nextDouble();
double Celsius ;
Celsius =((5.0 / 9.0) * Fahren - 32.0);
System.out.println("Celsius : " +Celsius);
}
}
```

32. To convert seconds into hours , minutes and seconds.

```
class Time
{
public static void main(String[] args)
{
int totalseconds ;
int seconds , minutes , hours ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the totalseconds :");
totalseconds = sc . nextInt() ;
seconds = totalseconds;
hours = seconds/3600 ;
seconds = seconds%3600 ;
minutes = seconds/60 ;
```

```
seconds = seconds%60 ;
System.out.println("Total seconds : " + totalseconds);
System.out.println("Hours : " + hours);
System.out.println("Minutes : " + minutes);
System.out.println("Seconds : " + seconds);
}
}
```

33. To find the area of the triangle for 3 sides.

```
class Triangle
{
public static void main(String[] args)
{
int s1 , s2 , s3 ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the value of s1 , s2 and s3 :");
s1 = sc . nextInt ( ) ;
s2 = sc . nextInt ( ) ;
s3 = sc . nextInt ( ) ;
int s=(s1+s2+s3)/2;
int  area = (s*(s-s1)*(s-s2)*(s-s3));
System.out.println("Area of a Triangle : " + area);
}
}
```

34. Swap two numbers using 3 rd. variable.

```
class Swap1
{
public static void main(String[] args)
{
int a ,b ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the value of a and b : ");
a = sc . nextInt () ;
b = sc . nextInt () ;
int temp=a;
a=b;
b=temp;
System.out.println("After swapping the value of a is : "+a);
System.out.println("After swapping the value of b is : "+b);
}
}
```

35. Swap two numbers without using 3 rd. variable.

```
class Swap2
{
public static void main(String[] args)
{
int a ,b ;
Scanner sc = new  Scanner ( System .in ) ;
System.out.println("Enter the value of a and b : ");
a = sc . nextInt () ;
b = sc . nextInt () ;
a = a + b;
b = a - b;
a = a - b;
System.out.println("After swapping the value of a is : "+a);
System.out.println("After swapping the value of b is : "+b);
}
}
```

36. To sort an array in ascending order (Bubble sort).

```
class Bubblesort
{
public static void main(String[] args)
{
int [ ] arr = { 8 , 7 , 5 , 9 , 2 , 10 };
int n=arr.length-1;
for( int i=1;i<n; i++)
{
for( int j=1;j<n; j++)
{
if ( arr[ j - 1 ] > arr[ j ] )
{
int temp = arr [ j-1 ] ;
arr [ j-1 ] = arr [ j ] ;
arr [ j ] = temp ;
}
}
}
for( int i=0 ; i<arr.length; i++)
{
System.out.println( arr[ i ]+ " ");
}
}
}
```

37. write a program to generate capca or OTP.

```
class OTP
{
public static void main(String[] args)
{
String s1="ABCDEFGHIJKLMNOPQRSTUVWXYZ";
String s2= s1.toLowerCase();
String s3= "123456789";
String s4 =s1+s2+s3;
Random r = new Random ();
char [] pwd = new char[5];
for(int i=0;i<5;i++)
{
pwd[i] = s4.charAt(r. nextInt(s4.length()));
}
for(int i=0;i<5;i++)
{
System.out.println(pwd[i]);
}
}
}
```

38. To generate Random numbers.

```
class GenerateRandom
{
public static void main(String[] args)
{
Random rm = new Random();
System.out.println("Random numbers are : ");
System.out.println("********************");
for(int i=1;i<=5;i++)
{
System.out.println(rm.nextInt(10));
}
}
}
```

39. To get the IP Address

```
class GetMyIPAddress
{
public static void main(String[] args) throws
UnknownHostException
{
InetAddress myIP = InetAddress.getLocalHost();
System.out.println("My IP address is : ");
```

```
System.out.println(myIP.getHostAddress());
}
}
```

40. To print the number in pyramid shape.

```
class Pyramidshape
{
public static void main(String[] args)
{
int n ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the number : ");
n=sc.nextInt();
for(int i=1;i<n;i++)
{
for(int j=1;j<=n;j++)
{
System.out.print(" ");
}
for(int k=1;k<=i;k++)
{
System.out.print(" "+k+ " ");
}
for(int m=n-1;m>0;m--)
{
System.out.print(" "+m+ " ");
}
System.out.println();
}
}
}
```

41. To find the GCD of a number.

```
class Gcd
{
public static void main(String[] args)
{
int a , b ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the value of a and b : ");
a = sc.nextInt();
b = sc.nextInt();
while(a != b)
{
```

```
if(a > b)
a = a - b ;
else
b = b - a ;
}
System.out.println("GCD of given numbers is : " +b);
}
}
```

42. to find missing number from the array.

```
class Missingnum
{
public static void main(String[] args)
{
int [] arr1 = {7,5,6,1,4,2} ;
System.out.println("Missing number from array arr1 :
"+missingNumber(arr1));
int [] arr2 = {5,3,1,2};
System.out.println("Missing number from array arr2 :
"+missingNumber(arr2));
}
public static int missingNumber (int[]arr)
{
int n = arr.length+1;
int sum = n*(n+1)/2;
int remSum = 0;
for(int i=0;i<arr.length;i++)
{
remSum+= arr[i];
}
int missingNumber = sum -remSum;
return missingNumber;
}
}
```

43. To find Natural number.

```
class Naturalno
{
public static void main(String[] args)
{
int n ,sum = 0 ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the number: ");
n = sc.nextInt();
```

```
for(int i=0;i<=n;i++)
{
sum = sum + i ;
}
System.out.println("Sum of natural numbers is : " +sum);
}
}
```

44. To find the perfect square.

```
class Perfectsquare
{
static boolean checkPerfectSquare(double x)
{
double sq = Math.sqrt(x);
return ((sq-Math.floor(sq))==0);
}
public static void main(String[] args)
{
double num ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the number : ");
num = sc.nextDouble();
if(checkPerfectSquare(num))
System.out.println(num+" is a perfect square number");
else
System.out.println(num+" is not a perfect square number");
}
}
```

45. To find whether the number is positive or negative .

```
class Posneg
{
public static void main(String[] args)
{
int num ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the number : ");
num = sc.nextInt();
if(num>0)
{
System.out.println(num+ " is a positive number");
}
if(num<0)
```

```
{
System.out.println(num+ " is a negative number");
}
}
}
```

46. Addition of 2 matrices.

```
class Add2matrix
{
public static void main(String[] args)
{
int rows , cols , c ,d ;
Scanner sc = new Scanner (System.in);
System.out.println("Enter the number for rows and columns : ");
rows = sc.nextInt();
cols = sc.nextInt();
int a [][] = new int [rows][cols] ;
int b [][] = new int [rows][cols] ;
int sum [][] = new int [rows][cols] ;
System.out.println("Enter the elements of 1st matrix : ");
for(c=0;c<rows;c++)
for(d=0;d<cols;d++)
a[c][d] = sc .nextInt();
System.out.println("Enter the elements of 2nd matrix : ");
for(c=0;c<rows;c++)
for(d=0;d<cols;d++)
b[c][d] = sc .nextInt();
for(c=0;c<rows;c++)
for(d=0;d<cols;d++)
sum[c][d] = a[c][d] + b[c][d] ;
System.out.println("Sum of the matrices : ");
for(c=0;c<rows;c++)
{
for(d=0;d<cols;d++)
System.out.println(sum[c][d]+ "\t");
}
}
}
```

47. multiplication of 2 matrices.

```
class Multiply2matrix
{
public static void main(String[] args)
{
```

```
int m , n , p , q , sum = 0 , c ,d , k ;
Scanner sc = new Scanner (System.in);
System.out.println("Enter the number for rows and columns of 1st
matrix : ");
m = sc.nextInt();
n = sc.nextInt();
int a [][] = new int [m][n] ;
System.out.println("Enter the numbers of 1st matrix : ");
for(c=0;c<m;c++)
for(d=0;d<n;d++)
a[c][d] = sc .nextInt();
System.out.println("Enter the number for rows and columns of 2nd
matrix : ");
p = sc .nextInt();
q = sc .nextInt();
if (n!=p)
System.out.println("matrices entered order can't be multiplied
with each other");
else
{
int b [][] = new int [p][q];
int multiply[][] = new int[m][q];
System.out.println("Enter the elements of 2nd matrix : ");
for(c=0;c<p;c++)
for(d=0;d<q;d++)
b[c][d] = sc.nextInt();
for(c=0;c<m;c++)
{
for(d=0;d<q;d++)
{
for(k=0;k<p;k++)
{
sum = sum + a[c][k] * b[k][d] ;
}
multiply[c][d] = sum;
sum=0;
}
}
System.out.println("Multiplication of matrices: ");
for(c=0;c<m;c++)
{
for(d=0;d<q;q++)
System.out.println(multiply[c][d]+"\t");
System.out.println("\n");
```

```
}
}
}
}
```

48. write a program for linear search algorithm or count how many times the character is repeated in a given string.

```
class Linersearch
{
public static void main(String[] args)
{
String str ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the String : ");
str = sc.nextLine();
int count=0;
char[]arr=str.toCharArray();
for (int i=0;i<arr.length; i++)
{
if(arr[i]=='a')
{
count++;
}
System.out.println(count);
}
}
}
```

49. To find the character position in the String.

```
class CharString
{
public static void main(String[] args)
{
String str ;
Scanner sc = new Scanner(System.in);
System.out.println("Enter the String : ");
str = sc.nextLine();
for(int i=0;i<str.length();i++)
{
char ch = str.charAt(i);
System.out.println("Character at "+i+" Position : " +ch);
}
}
```

```
}
```

50. To replace char ‘A’ with ‘O’ in the given String.

```
class Replacechar
{
public static void main(String[] args)
{
String s1 ="java";
String s2 = " " ;
char [] arr = s1.toCharArray();
for (int i=0;i<arr.length;i++)
{
if(arr[i]=='a')
{
s2 = s2 + 'o' ;
}
else
{
s2 = s2 + arr[i];
}
}
System.out.println(s2);
}
}
```