ASSIGNMENT-1

JAVA PROGRAMMING

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Sum of natural upto to n.

```
class left
    public static void main(String[] args)
{
  int N=10;
  int sum=0;
  System.out.println("Sum of"N);
  for(int i=1; i<=N; i++){
        sum+i;
  }
  System.out.println(N)
  }
}
```

~~O/P:-10~~

Input :- 10
O/P :- 55

) Prime number

```
class CFGS{
    static boolean IS prime(int n)
    {
     if (a<=1)
        return false;
     for (int i=2; i<n; i++)
        if (n%.i==0)
            return false
     return true.
    }
public. Static void main (String args[])
    {
     System.Pt println (IS prime(u)) }}
```

Input :- 5
O/P :- True

3) Factorial

I/P :- 3
O/P :- 6

```
class test{
    static int factorial(int n)
    {
      int res=1;
      for (i=2; i<n; i++)
         res*=i;
      return res;
    }
public static void main(String[], args)
{
  int num=8
  System.at println(factorial(5));
}
}
```

4) Reverse a number

I/P :- 123
O/P :- 321

```
class GfG{
    Static int reverse(int n)
    {
    int rev=0;
    int rem;
    while (n>0){
       rem= n %10;
       rev = (rem*10)+rem
       n = n/10; }
    return rev; }
```

```
public static void main(String[] args)
    int n = 4536 ;
    System.out.print(reverse(n)); }}
```

5) Armstrong number

I/P :- 135
O/P :- It is armstrong

```
public class Armstrong{
    public static void main(String[] args){
        if (args.length != 1){
            System.out.println("provide one number")
            return ;}
        int number Integer.parseInt(args[0]);
        int on = number
        int n = 0;
        int t = number
        while (t != 0){
            t /= 10;
            n++;
        }
    while (on != 0){
        int rem = on % 10;
        n = math.pow(rem, n);
        on /= 10;}
    if (n == number){
        System.out.println("It is armstrong")
```

```
else{
    System.out.println("It is not an armstrong
    }
}
```

I/P:- 19

b) Happy number O/P:- True

```
public class Happy number;
    public static void main(String[] args){
        if(args.length!=1){
            System.out.println("provide or
                                number")
            return;
        }
    int number=Integer.Integer.parseInt
                                (args[0]);
    System.out.println(number(is happy
                                (number);}
public static boolean is happy (int n){
    int s=n, f=n;
while(f)=1 && getnext(f)!=1){
    s=getNext(n)
    f = getNext(getnext(f));
    if(s==f) return false;
    }
return true
```

```
}
public static int getNext(int n){
    int r=0;
    while(n>0){
    int d=n%10;
    r=r*10+d;
    n/=10;}
    return r;}
}
```

7) Palindrome

```
Public class palindrome{
    public static void main(String[],args){
    int number=Integer.parseInt(args[0]);
    System.out.println(number+"is palindrome
                                (number));};
    }
Public static boolean ispalindrome(int n){
    int r=0;int s=n;
    while(n!=0){
        r=r*10+n%10;
        n/=10;}
    return s==r;}
}
```

I/P :- Malayalam
O/P :- It is palindrome

8) Sum of digits

I/P:- 23
O/P:- 5

```
public class Sum of digits {
    public static void (String[], args) {
int n = Integer.parseInt(args[0]);
int sr = 0;
while (number > 0){
    r = n % 10;
    n /= 10; }
System.out.println(sr);
```

7) Perfect number.

I/P:- 6
O/P:- It is perfect no

```
Public class perfectnumbers {
    public static void main(String[]
                                args) {
    int n = Integer.parseInt(args[0]);
    for (int i = 1; i <= n; i++){
        int s = 0
        for(int j = 1; j <= i/2; j++){
            if (i % j == 0){
                s += j; }}
    if (s == i) {
        System.out.println(i); }}}
```

10) Number divisible by 5 and 7

```
Public class divisible by 5 and 7{
    public static main [String[] args) {
    int n = Integers.parseInt(args[0]);
    System.out.println("divisible by 5 & 7 ");
    for (int i = 1; i<=n; i++) {
        if (i%5==0 && i%7==0){
            System.out.println(i);
        }
    }
}
}
```

I/P :- 50
O/P :- 35

4) Fibonacci series

```
public class fibonacci {
    public static void main(String[] args) {
    int n=100;
    int a=0, b=1, c;
    System.out.print("a=" +a+ "b=" +b+ ");
    while ((c=a+b)<=n){
        System.out.print(c+ " ");
        a=b;
        b=c;
    }
}
```

I/P :- 4
O/P :- 0, 1, 1, 2.

GCD and LCM

```
public class GCDandLCM{
    public void main (string[],args){
    int m1 = 24, m2 = 36;
    int gcd = gCd (m1, m2);
    int (lcm) = lCm (m1, m2, gcd);
    System.out.println("GCD = " + gcd);
    System.out.println("LCM = " + lcm);}
Public.
public static int GCD (int a, int b){
  while (b != 0){
    int t = b;
    b = a % b;
    a = temp; } return a; }
public static int LCM; } return a; }
    return (a*b) / gcd; }}
```

I/P :- 36, 120
O/P :- 12, 360

3) Celius to fahrenheit.

```
public class temperature {
    public static void main (String[],
                             args) {
    double c = 25.0
    double f = 77.0
    System.out.println (tof(c) +
                        ftoc(f));
```

• I/P :- C :- 22 C
F :- 71F
O/P :- F 71.6
C :- 25°C.

```
}
public static String d to b (int d){
    return integer to binary string(d);
}
public static int b to d (int b){
    return integer parse int (b, 2);
}
}
```

Sum of all odd & even for n number

```
Public class oddeven{
    public static void main (string[] args){
        int n=10;
        int o=0, l=0;
        for (int i=1; i<=n; i++){
            if (i%2==0){
                l+=i;}
            else{
                o+=i;
            }
        }
        System.out.println("Sum of odd" + "Sum of even" + l)
```

I/P :- 10

O/P :- odd = 25
even = 20.

(6) Leap year.

```
public class leap year{
    public static void main(
        String[], args){
```

```
int y = 2024;
if (isleap(y)) {
    System.out.println("It is a leap year");
else {
    System.out.println("It is not leap year");
}
public static boolean isleap(int y) {
    return (y%4==0 && y%100!=0) || (y%400==0);
}
```

I/P :- 2024
O/P :- It is leap year

17) Voting

```
public class voting {
    public static void main(String[], args){
        int age = 20;
    if (age>=18){
        System.out.println("you are eligible")
        }
    else
        System.out.println("you are not
                            eligible")
    }
```

I/P :- 19
O/P :- You are eligible to vote

Sum of square root and cubic root

```
public class root {
    public static main (string[] args){
    int n=625;
    double square=0, cubic=0;
for(int i=1, i<=n; i++){
    square+= Math.sqrt(i);
    cubic += Math.cubic(i);
    }
System.out.println("Square "+square+
                    "cubic", +"cubic");
}
}
```

I/P :- 625

O/P :- square :- 25
cube = 5.

(9) Vowels in the string

```
public class print vowels {
    public static void main (string[], args){
        System.out.println("list of vowels");
        vowels();
    }
public static void vowels(){
    String vowels = "aeiouAEIOU";
for(int i=0; i<vowels.length(); i++){
    char ch = vowels.charAt(i);
    System.out.print( + " ");
}
}
```

I/P :- "abhilaash"

aiaa

20) lower case and Upper Case

```
public class Main{
    public static void main (String[] args) {
        String text = "Helloworld";
System.out.println(txt.toUpperCase());
System.out.print (txt.to lower case());
    }
}
```

I/P :- "I Love India"

O/P :- upper case :- "ILOVEINDIA"

lower case :- "i love india."