ASSIGNMENT-1

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COURSE CODE :- CSA0985

COURSE :- JAVA PROGRAMMING FOR WEB APPLICATIONS.

(1) Sum of natural numbers.

```
public class SumofNaturalNumbers {
public static void main (String[] args) {
int n=100;
int sum=0;
for (int i=1 ;i<=n ;i++) {
        sum+ =i;
}
system.out.println ("the sum of "+n+" natural numbers is: "+ sum);
}
}
```

Output:- 5050.

(2) Check whether given number is prime or not

```
public class primechecker {
public static void main (String[] args) {
int n = 25;
Boolean is prime = true;
if (n≤ 1) {
   is prime=false;
} else {
for (int i=2 ; i*i ≤n; i++)}
   if (n%i==0) {
        is prime = false;
        break;
      }
    }
  }
```

output:-25 is not a prime number

```
System.out.println(n + " is " + (isPrime ? "prime" : "not prime"));
    }
}
```

Output: 13 5 7 89

(3) Factorial of n number.

```
class FactorialExample {
    public static void main(String args[]) {
        int i, fact = 1;
        int number = 5;
        for (i = 1; i <= number; i++) {
            fact = fact * i;
        }
        System.out.println("Factorial of " + number + " is: " + fact);
    }
}
```

output: 371 is an Armstrong number

(4) Reverse Number.

```
public class ReverseNumber
{
public static void main (String[] args)
{
int number = 987654, reverse = 0
while (number != 0)
{
int remainder = number % 10.
reverse = reverse * 10 + remainder.
number = number / 10;
}
System.out.println("The reverse of the given number is: " + reverse.);
}
}
```

Armstrong Number

```
public class ArmstrongNumber {
public class static void main (String [] args ) {
  int n = 371;
  int temp=n;
  int sum=0;
  while (temp!=0) {
   int digit = temp%10;
  sum = sum +digit*digit*digit;
  temp = temp/10;
  }
if (sum==n) {
  System.out.println (num+"is an Armstrong number");
  } else {
  System.out.println (num+"is not an Armstrong number");
  }
}
}
```

(6) Happy number

```
public class HappyNumber {
public static int isHappyNumber (int n) {
  int r=0; sum=0;
while (n>0){
  rem=n%10;
sum = sum+(rem*rem);
n=n/10;
}
Return sum;
}
```

output:- 82 is a happy number.

```
public static void main (String[] args) {
    int n= 8 2
    int result = n;
  while (result!=1 && result!=4) {
   result= isHappyNumber (result);
  }
  if (result==1)
  System.out.println (n+"is a happy number");
  else if (result==4)
     System.out.println (n+"is not a happy number");
  }
}
```

(7) Palindrome.

```
Class palindrome sample{
public static void main (string args[]) {
  int r, sum=0, temp;
 int n =454;
 temp=n;
 while (n>0) {
 r=n%10;
 sum=(sum*10)+r;
    n=n/10;
}
if (temp==sum)
   System.out.println ("palindrome number");
else
   System.out.println ("not palindrome");
  }
}
```

output:
palindrome

Sum of digits

```
public static void main (String args[])
 {
int number, digit, sum=0.
Scanner sc =new Scanner (System.in);
System.out.print ("enter thenumber:");
number = sc.next Int()
while (number > 0)
{
digits = number %.10
sum = sum + digit;
number= number /10;
 }
system.out.println ("sum of digits:" + sum);
}
```

output:-
Sum of digits
= 15.

(9) Numbers divisible by 5 and 7.

```
import java.util.
 Class Gfg {
 static int NumGen (int n)
  {
for (int j=1;j<n+1;j++)
 {
if (j %.5==0 (ij %.7==0)
System.out.print (j+" ");
 }
 }
return n;
}
public static void main (String args[])
{
int N=50;
   NumGen(N);
}
}
```

output:- 35 is divisible by 5 and 7.

(10) Perfect number

```
public static void main (String args[])
{
long n, sum=0;
Scanner sc = new Scanner (System.in);
System.out.print ("enter the number:");
n= sc.next long();
int i = 1;
While (i<=n/2)
{
if (n%i==0)
}
sum = sum+i;
}
i++;
}
if (sum==n)
System.out.print (n+" is a perfect number.")
}
else.
System.out.print (n+" is not a perfect number:");
```

output :-
28 is a perfect number.

(11) GCD and LCM

```
import java.io.*;
Class GFG{
static int gcd (int a, int b){
if (b==0)
return a;
else
return gcd (b, a%b);
}
static int lcm (int a, int b, int gcd value)
{
```

return Math.abs(a*b)/gcd value);
}
public static void main (String [] args) {
int a=72 ; b=120, gcd value;
gcd value = get value (a,b)
System.out.println ("GCD = "+gcd value)
System.out.println ("LCM = "+lcm (a,b,gcd value));
}

output:- GCD of 72 and 120 is :24.
LCM of 72 and 120 is :360.

(12) Decimal to Binary

```
static void dec to binary (int n)
{
int [] binary Num= new int [1000];
  int i = 0;
while (n>0)
 {
binary Num [i]=n%.2;
   n:n/2;
   i++;
 }
for(int j = i-1 ;j>= 0;j--)
System.out.print (binary Num[j]);
 }
public static void main (String() args)
{
int n=17;
System.out.println("Decimal-"+n);
system.out.print ("Binary -");
  decToBinary (n);
}
}.
```

output:-
42 is 101010.

(13) Binary to decimal

```
Class Gfg {
 Static int binary to decimal (int n)
  {
  int num=n;
 int dec = value = 0;
  int base = 1;
  int temp = num;
 While (temp > 0) {
  int last_digit = temp % 10;
      temp = temp/10;
  dec_value += last_digit * base;
   base = base * 2;
  }
 return dec_value;
 }
 public static void main (String [] args)
 {
 int num = 10101001;
 system.out.println (binary to decimal);
  }
```

output:-
42_101010.

Output:
169.

14) Celsius to farenheit.

```
public class temperature.
{ public static void main (String args[])
{ float farenheit, celsius;
  celsius = 13;
  farenheit = ((celsius * 9)/5) + 32;
System.out.println ("Temperature in farenheit is = " + farenheit)
  }}.
```

output:-
oc in F is 55.4

sum of odd numbers and even numbers

```
import java.io.*;
public class {f g}
public static void main (String [] args)
{
int n=8;
int even sum=0;
int odd sum=0;
for (int i=1; i<=2 ; n=i+i)
   evensum+=i;
   else.
   odd sum+=i;
}
System.out.println ("sum of first "+n+" even num: "+ evensum);
System.out.println ("sum of first"+n+" odd numbers ="+odd sum);
}
}.
```

Output: Sum of first 8 even numbers = 72
Sum of first 8 odd num = 64

(16) even or odd.

```
class even_odd {
public static void main( String[]args)
{int n=5 ; even sum=0 ; odd sum=0;
-for(int i=1;i<=2*n;i++) {
IF((i%1==0)
evensum+=i;
else
  oddsum+=i.
}
System.out.println ("sum of first "+n+"even numbers = "+even sum);
system.out.println ("sum of first "+n+"odd numbers = "+ odd sum);
}}
```

(17) voting:

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

output:-
age: 19
"Eligible to vote".

(18) vowels and consonants

```
Class vowel consonant {
public static void main (String [] args) {
char ch = 'i'
if (ch = 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u')
System.out.print (ch + " 'is vowel");
else
System.out.print (ch + "'is "consonant");
}
}
```

output : i is vowel.

```
strong number.
class test {
public static void main (String [] args)
 {
int sum = 0; i,r, fact, number;
Scanner (System.in);
System.out.println ("enter a number:");
 number = in.nextInt();
 int original = number;
  while (num > 0)
   {
  r = num % 10;
  fact = 1;
  for (i = 1; i<r; i++)
    {
   fact = fact * i;
   }
 sum = sum + fact;
number = number / 10;
 }
 if (original == sum)
  System.out.println ("strong number");
else
 System.out.println ("not strong number");
```

(20) Cube root and square root

```
public class Tools Calculator {
public static void main (String [] args)
  {
  Scanner Scanner = new
  Scanner (System.in);
  System.out.println ("enter a number");
  double number = Scanner.nextDouble();
  double squareroot = Math.sqrt (number);
  double cubic Root = Math.cbit (number);
System.out.println ("Square root of " + number + "is:" + Square root);
System.out.println ("cubic root of" + number + "is:" + cobic root);
```

output:

square root of number [3] is 9.

cubic root of 3 is 27.