Q1. Write a Program to print numbers F
1 to 10.

Ans:

```
class Numbers
 {
Public static void main (string a
{
For (int i = 1 ; i <= 10 ; i++ )
{
System.out.println(i);
}
}
}
```

O/P :

1

2

3

4

5

6

7

8

9

10

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

q2. Write a Program to calculate the sum of first 10 natural numbers

Ans:

```
import Java.util.scanner;
public class Digit-Sum
{
public static void main (String args[])
{
    int m, n, sum =0;
Scanner s= new Scanner (system.in);
System.out.print("Enter the number:")
m= s.nextInt();
While (m>0)
{
n= m % 10;
sum = sum+n;
m=n / 10; }
system.out.println (" sumof digits:" +s)
```

3) Write a Program that prompts the user to printput a positive integer. It should then print the multiplication table of that number.

Ans:-

```
import java.util.scanner;
public class multiplication.Table
{
Public static void main(string args[])
{
scanner s = new scanner(system.in);
system.out.print("Enter number:");
 int n = s.nextInt();
 for(int i=1; i<=10; i++)
 {
 }
system.out.println(n+" * "+i+ n);
 } }
 }
```

o/p :- Enter number : 7

7 * 1 = 7
7 * 2 = 14
7 * 3 = 21
7 * 4 = 28
7 * 5 = 35
7 * 6 = 42
7 * 7 = 49
7 * 8 = 56
7 * 9 = 63
7 * 10 = 70

Q4 Write a program to find the Factorial value of any number entered through the keyboard

Ans:-

```
class Factorial
 {
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 );
 }
 }
```

o/p :- Factorial of 5 is ; 120.

Q5.

95. Two Numbers are entered through the keyboard. Write a program to find the value of one number raised to the power of another. (Do not use Java built-in method).

Ans:-

```
import java.util.scanner;
Public class Power
  {
  Public static void main (string args[])
  {
  long n, p, r=1;
  n= Long.parseLong (args[0]);
  p= Long.parseLong (args[1]);
   if (n>=0 && p==0)
    {
    r=1;
    }
  else if (n==0 && p>=1)
  {
   r=0;
  }
  else {
  for (int i=1; i<=p; i++)
  {
   r= r*n;
  }
  }
system.out.Println(n+" ^ "+p+"="+r);
  }
}
```

O/P :- 5^3 = 125

(6) Write a program that prompts the user to input an integer and then outputs the number with the digits reversed. For example. If the input is 12345. the output should be 54321.

Ans:

```
import java.util.scanner;
public class Reverse
  {
Public static void main (string args[])
  {
int n, reverse = 0;
System.out.println("Enter an
int n = Integer.ParseInt(args[0]);
While(n != 0)
  {
reverse = reverse * 10;
reverse = reverse + n % 10;
   n = n / 10;
  }
system.out.println("Reverse of the number
 is:" + reverse);
  }
  }
```

O/P :- 12345
Reverse of the number is 54321

97) Write a program that reads a set of integers and then prints the sum of the even an odd integers.

Ans:

```
import java.util.scanner;
public class sum_odd_Even
{
public static void main(string args[])
{
int n, sumE = 0, sumO = 0;
Scanner s = new scanner(System.in);
System.out.Print("Enter the number of
 elements in array:");
n= s.nextInt();
int[]a = new int[n];
system.out.println("Enter the elements
        of the array:");
for(int i=0; i<n; i++)
{
a[i] = s.nextInt();
}
For(int i=0; i<n; i++)
{
if(a[i] % 2 == 0)
{
sumE = sumE + a[i];
}
else
{
```

98

Ans

```
}
system.out.println("Sum of Even Numbers:"
                    + sumE);
system.out.println("sum of odd Numbers:"+
                    sumO);
  }
}
```

O/P:-

```
Enter the number of elements in array:6
Enter the elements of the array:
1
2
3
6
7
9
Sum of Even Numbers: 8
Sum of odd Numbers: 20
```

Q8. Write a program that prompts the user to input a positive integer. It should then output a message indicating Whether the number is a prime number.

Ans:-

```
public class primecheck
 {
public static void main(String args[])
 {
int i, m=0, flag=0;
 int n=3;
m=n/2;
IF(n==0 || n==1)
 {
System.out.println(n+" is not a prime
number");
}
else {
For(i=2; i<=m; i++)
{
IF(.i=2; i<=m; i++)
iF(n%i==0) {
system.out.println(n+" is not a prime
 number.");
   flag=1;
 break;
 }
}
iF(flag==0)
{
system.out.println(n+" is a prime numb
 }
}
}
```

output :-

3 is a prime number

Q9. Write a program to calculate HCF of two given number

Ans:

```
public class GCD {
public static void main (String args[])
 {
 int n1 = 81 , n2 = 153;
   While (n1 != n2)
   {
  if (n1 > n2)
    n1 -= n2;
  else
     n2 -= n1;
  }
system.out.println("G.C.D = " +n1);
  }
```

output :- G.C.D = 9

Q10. Write a do-While loop that asks the users to enter two numbers. The numbers should be added and the sum displayed. the loop should ask the user whether he or she wishes to perform the operation again. If so, the loop should repeat otherwise it should terminate.

Ans:

```
import java.util.*;
public class sumdemo
  {
public static void main (String args[]);
 {
 int n1, n2;
 char choice;
Scanner sc = new Scanner (System.in);
 do
  {
System.out.println (" enter the first
  number=");
n1 = sc.nextInt();
System.out.println ("enter the second
  number =");
 n2 = sc.nextInt();
System.out.println ("sum of two numb
      -s is =" + (n1+n2));

System.out.println (" do you want
      to perform this action agai
      ? Press Y, y");
choice = sc.next().charAt (0);
  }
While (choice == 'Y' || choice == 'y');
      {
      }
```

O/P :-

enter the first number =

8

enter the second number =

7

sum of two numbers is = 15

Do you want to perform this action again ? Y, y

A.

Q11. Write a program to enter the numbers till the user wants and at the end it should display the count of Positive, negative and zeros entered

Ans:-

```
import java.util.scanner
public class Javaprogram.
public static void main (string args[])
{
int countp=0, countn=0, countz=0;
int arr[] = new int[10];
Scanner scan = new scanner (system.in);
system.out.print ("Enter 10 Numbers:");
For(i=0; i<=10; i++)
{
arr[i] = scan.nextInt();
}
For(i=0; i<=10; i++)
{
if (arr[i] <0)
{
countn ++;
}
else if (arr[i] == 0)
{
countz ++;
}
else {
countp ++; } }
```

```
System.out.println(countP + "Positive numbers");
System.out.println("\n" + countn + " Negative");
System.out.println("\n" + countz + " zero");
  }
  }
```

O/P :-

```
Enter 10 numbers
12.
-6
6.7
0
9
-6
-4
7.8
8
9
5  positive numbers
3  Negative numbers
2  zero
```

(12) Write a Program to enter the numbers till the user wants and at the end it should display the ~~count~~ largest and smallest Number

ANS:

```
import java.util.Scanner;
public class Largest smallest Numbers{
   private static scanner input;
public static void main (String args[])
   {
    int count, items;
    int newnum = 0;
    int bio large = 0;
    int small = 0;

input = new scanner (system.in);
System.out.println(" How many numbers
      you want to enter ?");
 items = input.nextInt();

system.out.println(" Enter " +items+ " numbers
                          ");
For (count = 0; count<items; count++)
   {
newnum = input.nextInt();
 if ( large < newnum)
        large = newnum;
 if (small == 0)
        small = newnum;
```

else if (newnum <= ~~Lowes~~ small)
small = newnum;

system.out.println("The Large number
is" + Large);

system.out.println("The small number
is" + small);
}
o

Q13.

Ans:

Q13. Write a Program to print out All Armstrong numbers between 1 and 500. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number.
For ex. 153 = (1*1*1) + (5*5*5) + (3*3*3)

Ans:

```
public class Armstrong
 {
public static void main(String args[])
 {
int num, temp, rem = 0, sum = 0, i, cube;
 num = 1;
 temp = 1;
for (i = 1; i < 500; i++)
 {
 While (num != 0)
 {
 rem = num % 10;
 cube = (rem * rem * rem);
 sum = sum + cube;
 num = num / 10;
 }

 if (sum == temp)
System.out.println(+temp);
  rem = 0;
  sum = 0;
  cube = 0;
```

```
temp = i+1;
num = 1+1;
}
}
}
```

O/P :-

```
153
370
371
407
```

Q15) Write a program to calculate the sum of following series where n is input by user

1 + 1/2 + 1/3 + 1/4 + 1/5 + ... 1/n

Ans:-

```
import java.util.*;
public class series
{
Public static void main (String args[])
{
Scanner sc = new scanner (System.in);
int i,n;
int sum = 0.0;
System.out.println (" enter a number=");
n= sc.nextInt();
For (i=1; i<=n; i++)
{
sum = sum + 1.0 /i ;
}
System.out.println ("the value of the serie
is = " + sum );
}
}
```

O/P :- 2.28933

Q16) Co
ad
1
W
u

Ans:

O/P

9(6) Compute the natural logarithm of 2, by adding up to n terms in the series, 1-1/2+1/3-1/4+1/5-1/n
Where n is a positive integer and input by user"

Ans;

```
Import java.util.*;
Public class Logarithm
{
public static void main(string args())
{
scanner sc = new scanner (system.in);
int i, n, sign = -1;
double sum = 0;
system.out.println("enter the value of n");
n = sc.nextInt();
For (i=1; ic=n; i++)
{
sign * = -1;
sum + = sign x 1.0 / i;
}
system.out.println("log 2:" +sum);
}
}
```

O/P :- Enter the value of n 5
log 2 : 0.78333

Q1: Write a program that generate a random number and asks the user to guess what the number is. If the user's guess is higher than the random number the program should display "Too Low, try again." the program should use a loop that repeats until the user correctly guesseess the random number

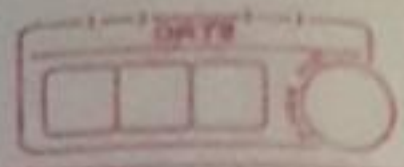
Ans:

```
import java.util.Scanner.t;
Pulic class game
 {
Public
 {
Scanner KB = new Scanner (System.in)
int num = 45;
int guess = 0;
int count = 0;
int guessess = 0;
do {
System.out.println(" guess was in
      What number I have?");

guess = KB.nextInt();
guesses ++;
if(num > guess)
{
System.out.println(" Too Low, Try again")
}
```

```
else if (Num < guess)
  a {
system.out.println ("Too high, try
                    again");
  }
 else {
system.out.println("you are right; the
    number is" +num);
 }
system.out.println("you guessed:" +guess
          + "times");
  }
While (guess != num)
  {
  }
}
```

O/P :- guess what number I have
1
guess what number I have
45
you are right the number is 45
you guessed 2 times



Q18. Write a program to print Following

i)

```
* * * * * * * * *
* * * * * * * * *
* * * * * * * * *
* * * * * * * * *
```

Ans:

```
public class Rstar
 {
public static void main (string args[])
 {
int i,j;
For (i=1; i<=4; i++)
 {
For (j=1; j<=10; j++)
{
 }
System.out.println(" *");
 }
System.out.println ();
 }
 }
 }
```

output :-

```
* * * * * * * * * *
* * * * * * * * * *
* * * * * * * * * *
* * * * * * * * * *
```

ii)

Ans:

1)

```
*
* *
* * *
* * * *
* * * * *
```

Ans:

```
Public class S1
{
Public static void main (String args[])
{
 int i,j;
For (i=1 ; i<=5 ; i++)
{
For (j=1 ; j<=i ; j++)
{
System.out.println (" * ");
}
System.out.println ();
}
}
}
```

o/p :-

```
*
* *
* * *
* * * *
* * * * *
```

iii)

```
    *
   * *
  * * *
 * * * *
* * * * *
```

Ans:

```
public class Stars2
{
public static void main(String args[])
{
int i, j, k;
for(i=1; i<=5; i++)
{
for(j=5; j>i; j--)
{
System.out.println(" ");
}
for(k=1; k<=i; k++)
{
System.out.println("*");
}
System.out.println();
}
}
}
```

o/p:-

```
    *
   * *
  * * *
 * * * *
* * * * *
```

iv)

```
*
**
***
```

Ans:

ii)

```
    *
   * * *
  * *** *
 ********
*********
```

Ans:

```
Public class S3
{
Public static void main (String args[])
 {
 int i, j, K;
For (i=1; i<=5; i++)
 {
For (j=1; j<=i; j--)
 {
System.out.println(" ");
 }
For (k=1; k<=2*i-1; k++)
 {
System.out.println("*");
 }
System.out.println();
  }
  }
  }
```

output :-

```
    *
   * * *
  * * * * *
 * * * * * * *
* * * * * * * * *
```

iv)

```
    *
   * * *
  * *** *
 ********* *
***********
```

Ans:

```
Public class S3
{
Public static void main (String args[])
{
int i, j, K;
For (i=1; i<=5; i++)
{
For (j=1; j<=i; j--)
{
system.out.println(" ");
}
For (k=1; k<=2*i-1; k++)
{
system.out.println("*");
}
system.out.println();
}
}
}
```

output :-

```
    *
   * * *
  * * * * *
 * * * * * * *
* * * * * * * * *
```

v.

```
    1
   2 2 2
  3 3 3 3 3
 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5
```

Ans:

```
public class one1
{
public static void main(String args[])
 {
 int i,j,k;
for(i=1;i<=5;i++)
 {
for(j=5;j>i;j--)
 {
System.out.println(" ");
 }
for(k=1;k<2*i-1;k++)
 {
System.out.println(i);
 }
System.out.println();
 }
 }
 }
```

o/p:

```
    1
   2 2 2
  3 3 3 3 3
 4 4 4 4 4 4 4
5 5 5 5 5 5 5 5 5
```

vi)

Ans:

vi)

```
        1
      2 1 2
    3 2 1 2 3
  4 3 2 1 2 3 4
5 4 3 2 1 2 3 4 5
```

Ans:-

```
public class Two02
{
public static void main(string args[])
{
int i,j,k,1;
For(i=1;i<=5;i++)
{
For(j=5;j>i;j--)
{
system.out.println(" ");
}
For(k=i;k>=1;k--)
{
system.out.println(+k);
}
For(1=2;1<=i;1++)
{
system.out.println(+1);
}
system.out.println();
}
3
}
```

19) Write a program to compute sinx for given x the user should supply x and a positive integer n. We compute the sine of x using the series and the compulation should use all terms in the series up through the term involving xn.

Ans:

```
import java.util.*;
public class sinx
{
Public static void main (String args[])
{
Scanner sc = new Scanner (System.in);
int i,j,n,fact, sign=-1;
Float x,p, sum=0;
system.out.println(" enter the value of x=");
x = sc.nextInt();
system.out.println(" enter the value of n=");
n = sc.nextInt();
For(i=1; i<=n; i+=2)
{
P=1;
Fact=1;
For(j=1; j<=i; j++)
{
P= P*x;
Fact = fact *j;
}
sign = -1 * sign;
```

```
        sum += sign * p / fact;
      }
    System.out.println(" sin = " + sum);
    }
}
```

o/p :- Enter the value of x : 2
Enter the value of n : 3

sin 2.00 = 0.666667

Q.20) Write a program to compute the cosine of the user should supply x and a positive integer n. We compute the consine of x using the series and the computation should use all terms in the series up through the term involving xn

$\cos x = 1 - x^2/2! + x^4/4! - x^6/6!$

Ans:-

```
import java.util.*;
public class cosX
{
public static void main (string args[])
{
scanner sc = new scanner(System.in);
int i, j, n, fact, sign = -1;
Float x, p, sum = 0;
system.out.println("enter the value of
        x =");
x = sc.nextInt();
system.out.println("enterthe value of
        n =");
n = sc.nextInt();
for(i = 1; i<=n; i+=2)
{
p=1;
fact=1;
for(j=1; j<=i; j++)
{
p = p * x;
fact = fact * j;
}
```

```
sum = sign * p / fact ;
sign = -1 * sign ;
}
system.out.println ("COS = " + (1+sum));
}
}
```

o/p :-

Enter the value of x : 4

Enter the value of n : 3

COS 4.00 = -7.000000