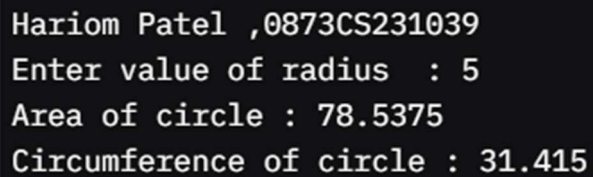


Java – Assignment 1

1. Program to find area and circumference of circle.

```
import java.util.Scanner; class
circle
{
public static void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
double radius,area,circumference; Scanner
s=new Scanner(System.in); System.out.println
("Enter value of radius : ");
radius=s.nextDouble();
area=(3.1415*radius*radius);
circumference=(2*3.1415*radius);
System.out.println("Area of circle : "+area);
System.out.println("Circumference of circle : "+circumference);
}
};
```

A screenshot of a terminal window with a black background and white text. It shows the output of the first Java program. The first line is the user's name and ID: 'Hariom Patel ,0873CS231039'. The second line is the prompt 'Enter value of radius : 5'. The third line is the calculated area: 'Area of circle : 78.5375'. The fourth line is the calculated circumference: 'Circumference of circle : 31.415'.

```
Hariom Patel ,0873CS231039
Enter value of radius : 5
Area of circle : 78.5375
Circumference of circle : 31.415
```

2. Program to calculate sum of 5 subjects and find percentage.

```
import java.util.Scanner; class
marks
{
public static void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int phy,chem,maths,eng,percentage; double
percentage;
Scanner s=new Scanner(System.in);
System.out.println("Enter marks of physics : ");
phy=s.nextInt();
System.out.println("Enter marks of chemistry : ");
chem=s.nextInt();
```

```

System.out.prin ("Enter marks of maths : ");
maths=s.nextInt();
System.out.prin ("Enter marks of english : ");
eng=s.nextInt();
System.out.prin ("Enter marks of pain ng : "); pain
ng=s.nextInt();
percentage=((phy+chem+maths+eng+pain ng)/5);
System.out.println("Percentage : "+percentage+"%");
}
};

```

```

Hariom Patel ,0873CS231039
Enter marks of physics : 85
Enter marks of chemistry : 90
Enter marks of maths : 95
Enter marks of english : 80
Enter marks of painting : 75
Percentage : 85.0%

```

3. Program to find the simple interest.

```

import java.u l.Scanner;
class marks
{
public sta c void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int principle, me,rate,interest;
Scanner s=new Scanner(System.in);
System.out.prin ("Enter principle amount : ");
principle=s.nextInt();
System.out.prin ("Enter rate of interest : ");
rate=s.nextInt();
System.out.prin ("Enter me(in years) : ");
me=s.nextInt();
interest=((principle*rate* me)/100);
System.out.println("Simple interest : "+interest);
}
};

```

```
Hariom Patel ,0873CS231039
Enter principle amount : 1000
Enter rate of interest : 5
Enter time(in years) : 2
Simple interest : 100
```

4. Write a program which accepts days(eg.670 days) as integer and display total number of years,months and days in it.

```
import java.util.Scanner;
class days
{
    public static void main(String args[])
    {
        System.out.println("Hariom Patel,0873CS231039");
        int totalDays,years,months,days;
        Scanner s=new Scanner(System.in);
        System.out.print("Enter total number of days : ");
        totalDays=s.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);
    }
};
```

```
Hariom Patel ,0873CS231039
Enter total number of days : 670
Years: 1
Months: 10
Days: 5
```

5. Program to convert temperature from Fahrenheit to Celsius as $C = 5 * (f - 32) / 9$.

```
import java.util.Scanner;
class Temperaturer
{
    public static void main(String args[])
    {
        System.out.println("Hariom Patel,0873CS231039");
```

```

double fahrenheit,celsius;
Scanner s=new Scanner(System.in);
System.out.println("Enter temperature in Fahrenheit : ");
fahrenheit=s.nextDouble(); celsius=(5*(fahrenheit-
32))/9;
System.out.println("Temperature in Celsius: " +
celsius);
}
};

```

```

Hariom Patel ,0873CS231039
Enter temperature in Fahrenheit : 98.6
Temperature in Celsius: 37.0

```

6. Program to swap two numbers without using third variable.

```

import java.util.Scanner;
class Swap
{
public static void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039"); int
a,b;
Scanner s=new Scanner(System.in);
System.out.print("Enter first number : ");
a=s.nextInt();
System.out.print("Enter second number : ");
b=s.nextInt()
; a=a+b;
b=a-b; a=a-
b;
System.out.println("After swapping : ");
System.out.println("a= "+a);
System.out.println("b= "+b);
}
};

```

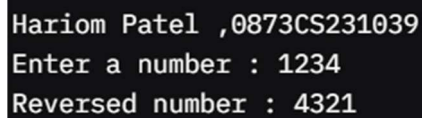
```

Hariom Patel ,0873CS231039
Enter first number : 10
Enter second number : 20
After swapping :
a= 20
b= 10

```

7. Program to reverse a given number.

```
import java.util.Scanner;
class Reverse
{
    public static void main(String args[])
    {
        System.out.println("Hariom Patel,0873CS231039");
        int number,reverse=0; Scanner s=new
        Scanner(System.in); System.out.print("Enter a
        number : "); number=s.nextInt();
        while(number!=0)
        {
            int digit=number%10;
            reverse=reverse*10+digit;
            number=number/10;
        }
        System.out.println("Reversed number : "+reverse);
    }
};
```

A screenshot of a Java program's output. It shows three lines of text: 'Hariom Patel ,0873CS231039', 'Enter a number : 1234', and 'Reversed number : 4321'. The text is white on a black background.

```
Hariom Patel ,0873CS231039
Enter a number : 1234
Reversed number : 4321
```

8. Program to find greatest among 3 numbers.

```
import java.util.Scanner; class
three
{
    public static void main(String args[])
    {
        System.out.println("Hariom Patel,0873CS231039");
        int a,b,c;
        Scanner s=new Scanner(System.in);
        System.out.print("Enter first number : ");
        a=s.nextInt();
        System.out.print("Enter second number : ");
        b=s.nextInt();
        System.out.print("Enter third number : ");
        c=s.nextInt();
```

```

if(a>=b && a>=c) System.out.prin ("Greatest number is : " +a);
else if(b>=a && b>=c) System.out.prin ("Greatest number is : 
"+b); else System.out.println("Greatest number is : "+c);
}
};

```

```

Hariom Patel ,0873CS231039
Enter first number : 25
Enter second number : 50
Enter third number : 15
Greatest number is : 50

```

9. Program to check that entered year is leap or not.

```

import java.u l.Scanner;
class year
{
public sta c void main(String args[])
{
System.out.println("Hariom Patel , 0873CS231039");
int year;
Scanner s=new Scanner(System.in);
System.out.print("Enter a year : ");
year=s.nextInt();
if((year%4==0 && year%100!=0)||(year%400==0)) System.out.println("is a leap
year.");
else System.out.println("is not a leap year.");
}
};

```

```

Hariom Patel , 0873CS231039
Enter a year : 2024
is a leap year.

```

10. Accept person age(int),gender(int 1 for male and 0 for female) then check wheather person is eligible for marriage or not.

```

import java.u l.Scanner; class
elligible
{
public sta c void main(String args[])
{

```

```

System.out.println("Hariom Patel,0873CS231039");
int age,gender;
Scanner s=new Scanner(System.in);
System.out.print("Enter age : ");
age=s.nextInt();
System.out.print("Enter gender (1 for male,0 for female) : ");
gender=s.nextInt();
if(gender==1)
{
if(age>=21) System.out.println("Eligible for marriage (Male)");
else System.out.println("Not eligible for marriage (Male)");
}
else if (gender == 0)
{
if (age >= 18) System.out.println("Eligible for marriage,Female");
else System.out.println("Not eligible for marriage (Female)");
}
}
};

```

```

Hariom Patel ,0873CS231039
Enter age : 22
Enter gender (1 for male,0 for female) : 1
Eligible for marriage (Male)

```

Java – Assignment 2

11. Program to print table of any number.

```

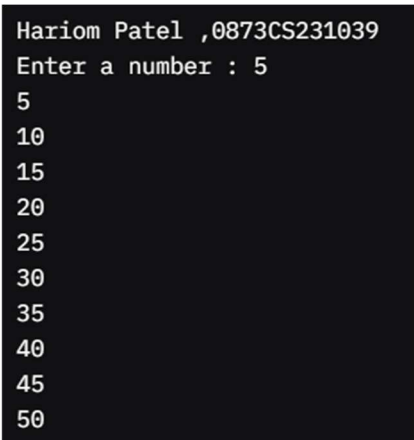
import java.util.Scanner; class
Table
{
public static void main(String args[])

```

```

{
System.out.println("Hariom Patel,0873CS231039");
int number;
Scanner s=new Scanner(System.in);
System.out.prin ("Enter a number : ");
number=s.nextInt();
for(int i=1;i<=10;i++)
{
System.out.println((number*i));
}
}
};

```



```

Hariom Patel ,0873CS231039
Enter a number : 5
5
10
15
20
25
30
35
40
45
50

```

12. Program to check number is prime or not.

```

import java.u l.Scanner; class
check
{
public sta c void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int n,i,flag=0;
Scanner s=new Scanner(System.in);
System.out.prin ("Enter a number : ");
n=s.nextInt();
for (i = 2; i <= n / 2; i++)
{
if(n%i==0)
{
flag=1;
break;
}
}
}
}

```



```

    }
    }
    if(flag==0) System.out.println(" is a prime number.");
    else System.out.println("is not a prime number.");
    }
    };

```

```

Hariom Patel ,0873CS231039
Enter a number : 17
is a prime number.

```

13. Calculate series $1(2)+2(2)+3(2)+4(2)+\dots+n(2)$, are squares.

```

import java.util.Scanner; class
Series
{
    public static void main(String args[])
    {
        System.out.println("Hariom Patel,0873CS231039"); int
        n,sum=0;
        Scanner s=new Scanner(System.in);
        System.out.print("Enter value of n : ");
        n=s.nextInt();
        for (int i=1;i<=n;i++)
        {
            sum=sum+(i*i);
        }
        System.out.println("Sum = "+sum);
    }
};

```

```

Hariom Patel ,0873CS231039
Enter value of n : 4
Sum = 30

```

14. Calculate sum of Lucas series(upto 10 terms).

```

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

```

```

System.out.println("Hariom Patel,0873CS231039"); int
a=2, b=1,c,sum=a+b;
System.out.prin ("Lucas series: "+a+" "+b+" ");
for(int i=3;i<=10;i++)
{
c=a+b;
System.out.prin (" "+c);
sum=sum+c;
a=b;
b=c;
}
System.out.println(" ");
System.out.println("Sum of first 10 terms = "+sum);
}
};

```

```

Hariom Patel ,0873CS231039
Lucas series: 2 1 3 4 7 11 18 29 47 76
Sum of first 10 terms = 198

```

15. Print all prime numbers between two given numbers.

```

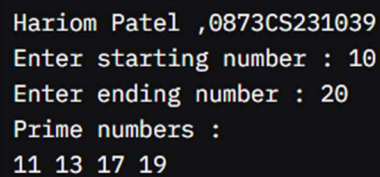
import java.u l.Scanner;
class prime
{
public sta c void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int start,end;
Scanner s=new Scanner(System.in);
System.out.prin ("Enter star ng number : ");
start=s.nextInt();
System.out.prin ("Enter ending number : ");
end=s.nextInt();
System.out.println("Prime numbers : ");
for (int num=start;num<=end;num++)
{
boolean isPrime=true;
if(num<=1) isPrime=false;
else
{
for (int i=2;i<=num/2;i++)
{

```

```

if(num%i==0)
{
isPrime=false;
break;
}
}
}
if(isPrime) System.out.print(num+" ");
}
}
};

```



```

Hariom Patel ,0873CS231039
Enter starting number : 10
Enter ending number : 20
Prime numbers :
11 13 17 19

```

16. Program to show sum and average of 10 elements array,accept elements from user.

```

import java.util.Scanner;
class Array
{
public static void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int[] arr=new int[10]; int sum=0; float average;
Scanner s=new Scanner(System.in);
System.out.println("Enter 10 elements : ");
for (int i=0;i<10;i++)
{
arr[i]=s.nextInt();
sum=sum+arr[i];
}
average=sum/10;
System.out.println("Sum = "+sum);
System.out.println("Average = "+average);
}
};

```

```
Hariom Patel ,0873CS231039
Enter 10 elements : 10 20 30 40 50 60 70 80 90 100
Sum = 550
Average = 55.0
```

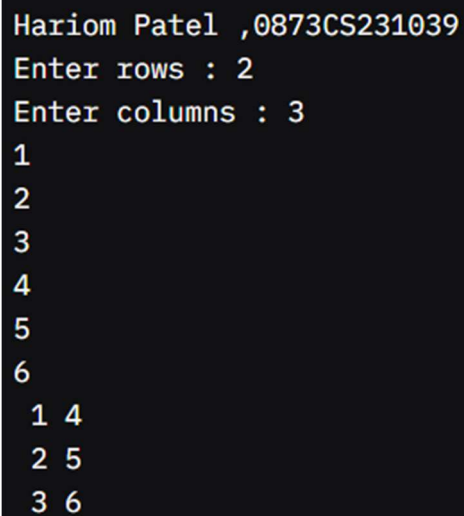
17. Sort a ten elements array in descending order.

```
class Sort
{
public static void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int[] arr={23, 12, 45, 67, 89, 1, 34, 90, 2, 56};
int temp;
System.out.println("Original array: ");
for(int i=0;i<10;i++)
{
System.out.print (" "+arr[i]);
}
for(int i=0;i<9;i++)
{
for(int j=i+1;j<10;j++)
{
if(arr[i]<arr[j])
{
temp=arr[i];
arr[i]=arr[j];
arr[j]=temp; }
}
}
System.out.println("Array in descending order:");
for (int i=0;i<10;i++)
{
System.out.print (" "+arr[i]);
}
}
};
```

```
Hariom Patel ,0873CS231039
Original array:
23 12 45 67 89 1 34 90 2 56
Array in descending order:
90 89 67 56 45 34 23 12 2 1
```

18. Program to print transpose of a matrix.

```
import java.util.Scanner;
class Transpose
{
    public static void main(String args[])
    {
        System.out.println("Hariom Patel,0873CS231039");
        int r,c;
        Scanner s=new Scanner(System.in);
        System.out.print ("Enter rows : ");
        r=s.nextInt();
        System.out.print ("Enter columns : ");
        c=s.nextInt(); int[][]
        a=new int[r][c];
        for(int i=0;i<r;i++)
        {
            for(int j=0;j<c;j++) a[i][j]=s.nextInt();
        }
        for(int i=0;i<c;i++)
        {
            for(int j=0;j<r;j++) System.out.print (" "+a[j][i]);
            System.out.println();
        }
    }
};
```



The screenshot shows the output of the Java program. It starts with a header line "Hariom Patel ,0873CS231039". Then it prompts "Enter rows : 2" and "Enter columns : 3". This is followed by a list of numbers 1 through 6, which are the elements of the original 2x3 matrix entered row by row. Finally, the transpose of the matrix is printed, showing the first column (1, 2, 3) and then the second column (4, 5, 6) on separate lines.

```
Hariom Patel ,0873CS231039
Enter rows : 2
Enter columns : 3
1
2
3
4
5
6
1 4
2 5
3 6
```

19. Program to find multiplication of two 3x3 matrix.

```
import java.util.Scanner;
class matrix
{
public static void main(String args[])
{
System.out.println("Hariom
Patel,0873CS231039"); Scanner s=new
Scanner(System.in); int[][] a=new int[3][3]; int[][]
b=new int[3][3]; int[][] c=new int[3][3];
for(int i=0;i<3;i++)
{
for(int j=0;j<3;j++) a[i][j]=s.nextInt();
}
for(int i=0;i<3;i++)
{
for(int j=0;j<3;j++) b[i][j]=s.nextInt();
}
for(int i=0;i<3;i++)
{
for(int j=0;j<3;j++)
{
c[i][j]=0;
for(int k=0;k<3;k++) c[i][j]+=a[i][k]*b[k][j];
}
}
for(int i=0;i<3;i++)
{
for(int j=0;j<3;j++) System.out.print(" "+c[i][j]);
System.out.println();
}
}
};
```

```
Hariom Patel ,0873CS231065
Enter matrix a : 1 2 3 4 5 6 7 8 9
Enter matrix b : 9 8 7 6 5 4 3 2 1
30 24 18
84 69 54
138 114 90
```

20. Create array of 17 elements and find sum.

```
import java.util.Scanner; class
Array
{
public static void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int[] arr=new int[17];
int sum=0;
Scanner s=new Scanner(System.in);
System.out.println("Enter 17 elements : ");
for (int i=0;i<=17;i++)
{
arr[i]=s.nextInt();
sum=sum+arr[i];
}
System.out.println("Sum = "+sum);
}
};
```

```
Hariom Patel ,0873CS231039
Enter 17 elements : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
Sum = 153
```