Java – Assignment 1

1. Program to find area and circumference of circle.

```
import java.u l.Scanner; class
circle
{
public sta c void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
double radius,area,circumference; Scanner
s=new Scanner(System.in); System.out.prin
("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);
}
};
```

```
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.u l.Scanner; class
marks
{
public sta c void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int phy,chem,maths,eng,pain ng; double
percentage;
Scanner s=new Scanner(System.in);
System.out.prin ("Enter marks of physics : ");
phy=s.nextInt();
System.out.prin ("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.u l.Scanner;
class days
{
public sta c void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int totalDays,years,months,days;
Scanner s=new Scanner(System.in);
System.out.prin ("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.u l.Scanner;
class Temperaturer
{
public sta c void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
```

```
double fahrenheit,celsius;
Scanner s=new Scanner(System.in);
System.out.prin ("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.u l.Scanner;
class Swap
{
public sta c 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("A er 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.u l.Scanner;
class Reverse
{
public sta c void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int number,reverse=0; Scanner s=new
Scanner(System.in); System.out.prin ("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);
}
};
```

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

8. Program to find greatest among 3 numbers.

```
import java.u l.Scanner; class
three
{
public sta c 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)
```


11. Program to print table of any number.

```
import java.u l.Scanner; class
Table
{
public sta c 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)+……n(2),are squares.

```
import java.u l.Scanner; class
Series
{
public sta c 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 sta c 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.u l.Scanner;
class Array
{
public sta c 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 sta c 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.prin (" "+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.prin (" "+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.u l.Scanner;
class Transpose
{
public sta c void main(String args[])
{
System.out.println("Hariom Patel,0873CS231039");
int r,c;
Scanner s=new Scanner(System.in);
System.out.prin ("Enter rows : ");
r=s.nextInt();
System.out.prin ("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.prin (" "+a[j][i]);
System.out.println();
}
}
};
```

```
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 mul plica on of two 3by3 matrix.

```
import java.u l.Scanner;
class matrix
{
public sta c 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 ,073CS231065
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.u l.Scanner; class
Array
{
public sta c 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
```