

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("Gunjan
Jaiswal,0873CS231038"); double
radius,area,circumference;
Scanner s=new Scanner(System.in);
System.out.printf("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);
}
};
```

Output

```
Gunjan Jaiswal,0873CS231038
Enter value of radius : 4
Area of circle : 50.264
Circumference of circle : 25.132
```

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("Gunjan
Jaiswal,0873CS231038"); int
phy,chem,maths,eng,painting;
double percentage;
Scanner s=new Scanner(System.in);
System.out.printf("Enter marks of physics : ");
phy=s.nextInt();
System.out.printf("Enter marks of chemistry : ");
chem=s.nextInt();
```

```

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

```

Output

```

Gunjan Jaiswal,0873CS231038
Enter marks of physics : 70
Enter marks of chemistry : 56
Enter marks of maths : 98
Enter marks of english : 95
Enter marks of painting : 88
Percentage : 81.0%

```

3. Program to find the simple interest.

```

import java.util.Scanner;
class marks
{
public static void main(String args[])
{
System.out.println("Gunjan Jaiswal,0873CS231038");
int principle,time,rate,interest;
Scanner s=new Scanner(System.in);
System.out.printf("Enter principle amount : ");
principle=s.nextInt();
System.out.printf("Enter rate of interest : ");
rate=s.nextInt();
System.out.printf("Enter time(in years) : ");
time=s.nextInt();
interest=((principle*rate*time)/100);
System.out.println("Simple interest : "+interest);
}
};

```

Output

```
Gunjan Jaiswal,0873CS231038
Enter principle amount : 180
Enter rate of interest : 8
Enter time(in years) : 1
Simple interest : 14
```

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("Gunjan Jaiswal,0873CS231038");
        int totalDays,years,months,days;
        Scanner s=new Scanner(System.in);
        System.out.printf("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);
    }
};
```

Output

```
Gunjan Jaiswal,0873CS231038
Enter total number of days : 554
Years: 1
Months: 6
Days: 9
```

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

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

```

{
System.out.println("Gunjan Jaiswal,0873CS231038");
double fahrenheit,celsius;
Scanner s=new Scanner(System.in);
System.out.printf("Enter temperature in Fahrenheit : ");
fahrenheit=s.nextDouble();
celsius=(5*(fahrenheit-32))/9;
System.out.println("Temperature in Celsius: " + celsius);
}
};

```

Output

```

Gunjan Jaiswal,0873CS231038
Enter temperature in Fahrenheit : 373
Temperature in Celsius: 189.44444444444446

```

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("Gunjan Jaiswal,0873CS231038");
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);
}
};

```

Output

```
Gunjan Jaiswal,0873CS231038
Enter first number : 56
Enter second number : 11
After swapping :
a= 11
b= 56
```

7. Program to reverse a given number.

```
import java.util.Scanner;
class Reverse
{
    public static void main(String args[])
    {
        System.out.println("Gunjan Jaiswal,0873CS231038");
        int number,reverse=0;
        Scanner s=new Scanner(System.in);
        System.out.printf("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);
    }
};
```

Output

```
Gunjan Jaiswal,0873CS231038
Enter a number : 56
Reversed number : 65
```

8. Program to find greatest among 3 numbers.

```
import java.util.Scanner;
class three
{
    public static void main(String args[])
    {
        System.out.println("Gunjan Jaiswal,0873CS231038");
        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.printf("Greatest number is : " +a);
else if(b>=a && b>=c) System.out.printf("Greatest number is : "+b);
else System.out.println("Greatest number is : "+c);
}
};

```

Output

```

Gunjan Jaiswal,0873CS231038
Enter first number : 56
Enter second number : 78
Enter third number : 1
Greatest number is : 78

```

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

```

import java.util.Scanner;
class year
{
public static void main(String args[])
{
System.out.println("Gunjan Jaiswal,0873CS231038");
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.");
}
};

```

Output

```

Gunjan Jaiswal,0873CS231038
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.util.Scanner;
class eligible
{
    public static void main(String args[])
    {
        System.out.println("Gunjan Jaiswal,0873CS231038");
        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)");
        }
    }
};
```

Output

```
Gunjan Jaiswal,0873CS231038
Enter age : 21
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("Gunjan Jaiswal,0873CS231038");
        int number;
        Scanner s=new Scanner(System.in);
        System.out.printf("Enter a number : ");
        number=s.nextInt();
        for(int i=1;i<=10;i++)
        {
            System.out.println((number*i));
        }
    }
};
```

Output

```
Gunjan Jaiswal,0873CS231038
Enter a number : 7
7
14
21
28
35
42
49
56
63
70
```

12. Program to check number is prime or not.

```
import java.util.Scanner;
class check
{
    public static void main(String args[])
    {
        System.out.println("Gunjan Jaiswal,0873CS231038");
```



```

int n,i,flag=0;
Scanner s=new Scanner(System.in);
System.out.printf("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.");
}
};

```

Output

```

Gunjan Jaiswal,0873CS231038
Enter a number : 72
is not 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("Gunjan Jaiswal,0873CS231038");
        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);
    }
};

```

Output

```
Gunjan Jaiswal,0873CS231038  
Enter value of n : 10  
Sum = 385
```

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

```
class Lucas  
{  
    public static void main(String args[])  
    {  
        System.out.println("Gunjan Jaiswal,0873CS231038");  
        int a=2, b=1,c,sum=a+b;  
        System.out.printf("Lucas series: "+a+" "+b+" ");  
        for(int i=3;i<=10;i++)  
        {  
            c=a+b;  
            System.out.printf(" "+c);  
            sum=sum+c;  
            a=b;  
            b=c;  
        }  
        System.out.println(" ");  
        System.out.println("Sum of first 10 terms = "+sum);  
    }  
};
```

Output

```
Gunjan Jaiswal,0873CS231038  
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.util.Scanner;  
class prime  
{  
    public static void main(String args[])  
    {  
        System.out.println("Gunjan Jaiswal,0873CS231038");  
        int start,end;
```

```

Scanner s=new Scanner(System.in);
System.out.printf("Enter starting number : ");
start=s.nextInt();
System.out.printf("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+" ");
}
}
};

```

Output

```

Gunjan Jaiswal,0873CS231038
Enter starting number : 5
Enter ending number : 52
Prime numbers :
5 7 11 13 17 19 23 29 31 37 41 43 47

```

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("Gunjan Jaiswal,0873CS231038");
        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);
}
};

```

Output

```

Gunjan Jaiswal,0873CS231038
Enter 10 elements :
4 5 6 8 9 7 2 0 12 1
Sum = 54
Average = 5.0

```

17. Sort a ten elements array in descending order.

```

class Sort
{
public static void main(String args[])
{
System.out.println("Gunjan Jaiswal,0873CS231038");
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.printf(" "+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("\nArray in descending
    order:");
    for (int i=0;i<10;i++)
    {
    System.out.printf(" "+arr[i]);
    }
    }
    };

```

Output

```

Gunjan Jaiswal,0873CS231038
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("Gunjan Jaiswal,0873CS231038");
        int r,c;
        Scanner s=new Scanner(System.in);
        System.out.printf("Enter rows : ");
        r=s.nextInt();
        System.out.printf("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.printf(" "+a[j][i]);
            System.out.println();
        }
        }
    };

```

Output

```
Gunjan Jaiswal,0873CS231038
Enter rows : 2
Enter columns : 2
6
12
8
2
6 8
12 2
```

19. Program to find multiplication of two 3by3 matrix.

```
import java.util.Scanner;
class matrix
{
    public static void main(String args[])
    {
        System.out.println("Gunjan Jaiswal,0873CS231038");
        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();
        }
    }
}
```

```
};
```

Output

```
Gunjan Jaiswal,0873CS231038
12 5 6 2 1 0 6 65 7
45 6 2 1 0 8 6 6 3
581 108 82
91 12 12
377 78 553
```

20. Create array of 17 elements and find sum.

```
import java.util.Scanner;
class Array
{
    public static void main(String args[])
    {
        System.out.println("Gunjan Jaiswal,0873CS231038");
        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);
    }
};
```

Output

```
Gunjan Jaiswal,0873CS231038
Enter 17 elements :
22 11 43 5 6 8 3 56 30 9 14 2 7 17 20 10 4
Sum = 267
```