

1. Write a program to take 2 numbers and print their quotient and remainder

Hint => Use division operator (/) for quotient and moduli operator (%) for remainder

I/P => number1, number2

O/P => The Quotient is 2 and Remainder is 0 of two number 4 and 2.

Soln:

```
import java.util.*;
```

```
class week1{
```

```
    public static void main(String[] args){
```

```
        Scanner obj=new Scanner(System.in);
```

```
        System.out.println("enter number1");
```

```
        int number1=obj.nextInt();
```

```
        System.out.println("enter number2");
```

```
        int number2=obj.nextInt();
```

```
        int quotient = number1/number2;
```

```
        int remainder = number1 % number2;
```

```
        System.out.println("The Quotient is " + quotient + " and Remainder is " + remainder +  
" of two number " + number1 +" and " + number2);
```

```
        obj.close();
```

```
    }}
```

1. Write an **IntOperation** program by taking a, b, and c as input values and print the following integer operations $a + b * c$, $a * b + c$, $c + a / b$, and $a \% b + c$. Please also understand the precedence of the operators.

Hint =>

- a. Create variables a, b, c of int data type.
- a. Take user input for a, b, and c.
- a. Compute 3 integer operations and assign result to a variable
- a. Finally print the result and try to understand operator precedence.

I/P => fee, discountPrecent

O/P => The results of Int Operations are 34,16,8 and 10

Soln:

```
import java.util.*;
```

```

class week1{
    public static void main(String[] args){
        Scanner obj=new Scanner(System.in);
        System.out.println("enter a");
        int a=obj.nextInt();
        System.out.println("enter b");
        int b=obj.nextInt();
        System.out.println("enter c");
        int c=obj.nextInt();
        int op1= a + b *c;
        int op2 = a * b + c;
        int op3 = c + a / b;
        int op4 = a % b + c;
        System.out.println("The results of Int Operations are "+ op1 + "," + op2+ "," +
op3+"and"+op4);
        obj.close();
    }
}

```

1. Similarly, write the **DoubleOpt** program by taking double values and doing the same operations.

o/p => The results of Int Operations are 34.0,16.0,8.5 and 10.0

Soln:

```
import java.util.*;
```

```

class week1{
    public static void main(String[] args){
        Scanner obj=new Scanner(System.in);
        System.out.println("enter a");
        double a=obj.nextDouble();
        System.out.println("enter b");
        double b=obj.nextDouble();
        System.out.println("enter c");
        double c=obj.nextDouble();
    }
}

```

```

        double op1= a + b *c;

        double op2 = a * b + c;

        double op3 = c + a / b;

        double op4 = a % b + c;

        System.out.println("The results of Int Operations are "+ op1 + "," + op2+ "," + "," +","+
op3+"and"+op4);

        obj.close();

    }}

```

1. Write a TemperaturConversion program, given the temperature in Celsius as input outputs the temperature in Fahrenheit

Hint =>

- a. Create a **celsius** variable and take the temperature as user input
- a. Use the Formulae Celsius to Fahrenheit: $(^{\circ}\text{C} \times 9/5) + 32 = ^{\circ}\text{F}$ and assign to **fahrenheitResult** and print the result

I/P => celcius

O/P => The 0.0 celsius is 32.0 Fahrenheit

Soln:

```

import java.util.*;

class week1{

    public static void main(String[] args){

        Scanner obj=new Scanner(System.in);

        System.out.println("enter celsius");

        double celsius = obj.nextDouble();

        double Fahrenheit = ( celsius * (9/5)) + 32;

        System.out.println("The " + celsius + " celsius is " +Fahrenheit+ " Fahrenheit ");

        obj.close();

    }}

```

1. Write a TemperaturConversion program, given the temperature in Fahrenheit as input outputs the temperature in Celsius

Hint =>

- c. Create a **fahrenheit** variable and take the user's input
- c. User the formulae to convert Fahrenheit to Celsius: $(^{\circ}\text{F} - 32) \times 5/9 = ^{\circ}\text{C}$ and assign the result to **celsiusResult** and print the result

I/P => fahrenheit

O/P => The 32.0 Fahrenheit is 0.0 celsius

Soln:

```
import java.util.*;

class week1{

    public static void main(String[] args){

        Scanner obj=new Scanner(System.in);

        System.out.println("enter Fahrenheit");

        double Fahrenheit = obj.nextDouble();

        double celsius = ( Fahrenheit - 32) * (5/9)

        System.out.println("The " + Fahrenheit + " Fahrenheit is " +celsius+ " celsius ");

        obj.close();

    }
}
```

1. Create a program to find the total income of a person by taking salary and bonus from user

Hint =>

- a. Create a variable named salary and take user input.
- a. Create another variable bonus and take user input.
- a. Compute income by adding salary and bonus and print the result

I/P => salary, bonus

O/P => The salary is INR 25000 and bonus is INR 3000. Hence Total Income is INR 28000

Soln:

```
import java.util.*;

class week1{

    public static void main(String[] args){

        Scanner obj=new Scanner(System.in);
```

```

        System.out.println("enter Salary");

        int Salary = obj.nextInt();

        System.out.println("enter Bonus");

        int Bonus = obj.nextInt();

        int income = Salary + Bonus;

        System.out.println(" The salary is INR " + Salary + " and bonus is INR " + Bonus + ". "
+" Hence Total Income is INR " + income );

        obj.close();

    }}

```

7.Create a program to swap two numbers

Hint =>

- a. Create a variable number1 and take user input.
- a. Create a variable number2 and take user input.
- a. Swap number1 and number2 and print the swapped output

I/P => number1, number2

O/P => The swapped numbers are 5 and 3.

Soln:

```
import java.util.*;
```

```
class week1{
```

```
    public static void main(String[] args){
```

```
        Scanner obj=new Scanner(System.in);
```

```
        System.out.println("enter number1");
```

```
        int number1 = obj.nextInt();
```

```
        System.out.println("enter number2");
```

```
        int number2 = obj.nextInt();
```

```
        number1=number1 + number2;
```

```
        number2= number1 - number2;
```

```
        number1= number1 - number2;
```

```
        System.out.println("The swapped numbers are " + number2 + " and " + number1 );
```

```
        obj.close();  
    }  
}
```

1. Rewrite the Sample Program 2 with user inputs

Hint =>

- a. Create variables and take user inputs for name, fromCity, viaCity, toCity
- a. Create variables and take user inputs for distances fromToVia and viaToFinalCity in Miles
- a. Create Variables and take time taken
- a. Finally, print the result and try to understand operator precedence.

I/P => fee, discountPrecent

O/P => The Total Distance travelled by svr from vskp to mas via bza is 1400 km and the Total Time taken is 840 minutes

Soln:

```
import java.util.*;
```

```
class week1{
```

```
    public static void main(String[] args){
```

```
        Scanner obj=new Scanner(System.in);
```

```
        System.out.print("Enter Person name:");
```

```
        String personName = obj.nextLine();
```

```
        System.out.print("Enter fromCity name:");
```

```
        String fromCity = obj.nextLine();
```

```
        System.out.print("Enter viaCity name:");
```

```
        String viaCity = obj.nextLine();
```

```
        System.out.print("Enter toCity name:");
```

```
        String toCity = obj.nextLine();
```

```
        System.out.print("Enter distanceFromToVia name:");
```

```
        int distanceFromToVia = obj.nextInt();
```

```
        System.out.print("Enter distanceViaToFinal name:");
```

```
        int distanceViaToFinal = obj.nextInt();
```

```
        int totalDistance = distanceFromToVia + distanceViaToFinal;
```

```
        System.out.print("Enter time taken FromToVia name(inHrs):");
```

```

        int time_FromToVia = obj.nextInt();

        System.out.print("Enter time taken ViaToFinal name(inHrs):");

        int time_ViaToFinal = obj.nextInt();

        int totalTimeinhrs = time_FromToVia +time_ViaToFinal;

        int totalTimeinminutes = 60 * totalTimeinhrs;

        System.out.println("The Total Distance travelled by " +personName + " from " +
        fromCity + " to " + toCity + " via " + viaCity +
        " is " + totalDistance + " km and " +
        "the Total Time taken is " + totalTimeinminutes + " minutes");

        obj.close();
    }}

```

1. An athlete runs in a triangular park with sides provided as input by the user in meters. If the athlete wants to complete a 5 km run, then how many rounds must the athlete complete

Hint => The perimeter of a triangle is the addition of all sides and rounds is distance/perimeter

I/P => side1, side2, side3

O/P => The total number of rounds the athlete will run is 1666 to complete 5 km

Soln:

```

import java.util.*;

class week1{

    public static void main(String[] args){

        Scanner obj=new Scanner(System.in);

        System.out.println("enter side1");

        int side1 = obj.nextInt();

        System.out.println("enter side2");

        int side2 = obj.nextInt();

        System.out.println("enter side3");

        int side3 = obj.nextInt();

        int perimeter = side1 + side2 + side3;

        int distanceinkm = 5 ;
    }
}

```

```

        int distanceinmeters = 1000 * distanceinkm;

        int rounds = distanceinmeters / perimeter;

        System.out.println("The total number of rounds the athlete will run is " + rounds + "
to complete 5 km");

        obj.close();

    }}

```

1. Create a program to divide N number of chocolates among M children.

Hint =>

- a. Get an integer value from user for the numberOfchocolates and numberOfChildren.
- a. Find the number of chocolates each child gets and number of remaining chocolates
- a. Display the results

I/P => numberOfchocolates, numberOfChildren

O/P => The number of chocolates each child gets is 1 and the number of remaining chocolates are 1.

Soln:

```

import java.util.*;

class week1{

    public static void main(String[] args){

        Scanner obj=new Scanner(System.in);

        System.out.print("Enter noOfChoclates: ");

        int noOfChoclates =obj.nextInt();

        System.out.print("Enter noOfChildren: ");

        int noOfChildren = obj.nextInt();

        int chocolatesPerChildren = noOfChoclates/noOfChildren;

        int remainingChocolates = noOfChoclates % noOfChildren;

        System.out.print("The number of chocolates each child gets is "
+chocolatesPerChildren+" and the number of remaining chocolates are " + remainingChocolates);

        obj.close();

    }}

```

11. Write a program to input the Principal, Rate, and Time values and calculate Simple Interest.

Hint => Simple Interest = Principal * Rate * Time / 100

I/P => principal, rate, time

O/P => The Simple Interest is 5000.0 for Principal 100000.0 , Rate of Interest 2.5 and Time 2.0.

Soln:

```
import java.util.*;
```

```
class week1{
```

```
    public static void main(String[] args){
```

```
        Scanner obj = new Scanner(System.in);
```

```
        System.out.print("Enter principal: ");
```

```
        double principal = obj.nextDouble();
```

```
        System.out.print("Enter rate: ");
```

```
        double rate = obj.nextDouble();
```

```
        System.out.print("Enter time: ");
```

```
        double time = obj.nextDouble();
```

```
        double simpleInterest = (principal * rate * time) / 100;
```

```
        System.out.print("The Simple Interest is " + simpleInterest + " for Principal " +  
principal + " , " + " Rate of Interest " + rate + " and Time " + time);
```

```
        obj.close();
```

```
    }}
```

1. Create a program to convert weight in pounds to kilograms.

Hint => 1 pound = 2.2 kg

I/P => weight

O/P => The weight of the person in pound is 1.0 and in kg is 2.2

Soln:

```
import java.util.*;
```

```
class week1{
```

```
    public static void main(String[] args){
```

```
        Scanner obj = new Scanner(System.in);
```

```
        System.out.print("Enter weight in Pounds: ");
```

```
        double weightInPounds = obj.nextDouble();
```

```
        double weightInKgs = 2.2 * weightInPounds;
```

```
        System.out.print("The weight of the person in pound is " + weightInPounds + " and  
in kg is " + weightInKgs);
```

```
        obj.close();
```

}}