**ALLAN ROY**
**RA2411030010028**
**LEVEL 3**
**STEP CLASS**

**Temperature Conversion Programs**

**1. Convert Celsius to Fahrenheit**

```
import java.util.Scanner;


public class CelsiusToFahrenheit {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter temperature in Celsius: ");
      double celsius = scanner.nextDouble();
      double fahrenheit = (celsius * 9/5) + 32;
      System.out.println("The " + celsius + " celsius is " + fahrenheit + " fahrenheit.");
      scanner.close();
   }
}
```

OUTPUT:

```
Enter temperature in Celsius: 36
The 36.0 celsius is 96.8 fahrenheit.
```

**2. Convert Fahrenheit to Celsius**

```
import java.util.Scanner;


public class FahrenheitToCelsius {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter temperature in Fahrenheit: ");
      double fahrenheit = scanner.nextDouble();
      double celsius = (fahrenheit - 32) * 5/9;
      System.out.println("The " + fahrenheit + " fahrenheit is " + celsius + " celsius.");
      scanner.close();
   }
}
```

OUTPUT:

```
Enter temperature in Fahrenheit: 98.6
The 98.6 fahrenheit is 37.0 celsius.
```

**3. Compute Total Income**

```
import java.util.Scanner;


public class TotalIncome {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter salary: ");
      double salary = scanner.nextDouble();
      System.out.print("Enter bonus: ");
      double bonus = scanner.nextDouble();
      double totalIncome = salary + bonus;
      System.out.println("The salary is INR " + salary + " and bonus is INR " + bonus + ". Hence Total Income is INR " + totalIncome);
      scanner.close();
   }
}
```

OUTPUT:

```
Enter salary: 19000
Enter bonus: 2000
The salary is INR 19000.0 and bonus is INR 2000.0. Hence Total Income is
    INR 21000.0
```

**4. Swap Two Numbers**

```
import java.util.Scanner;

public class SwapNumbers {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter first number: ");
      int number1 = scanner.nextInt();
      System.out.print("Enter second number: ");
      int number2 = scanner.nextInt();

      // Swapping numbers
      int temp = number1;
      number1 = number2;
      number2 = temp;

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

OUTPUT

```
Enter first number: 20
Enter second number: 30
The swapped numbers are 30 and 20
```

**5. Compute Total Distance and Time**

```
import java.util.Scanner;


public class TravelDetails {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter your name: ");
      String name = scanner.nextLine();
      System.out.print("Enter starting city: ");
      String fromCity = scanner.nextLine();
      System.out.print("Enter via city: ");
      String viaCity = scanner.nextLine();
      System.out.print("Enter destination city: ");
      String toCity = scanner.nextLine();
      System.out.print("Enter distance from start to via city: ");
      double fromToVia = scanner.nextDouble();
      System.out.print("Enter distance from via to final city: ");
      double viaToFinalCity = scanner.nextDouble();
      System.out.print("Enter time taken: ");
      double time = scanner.nextDouble();


      double totalDistance = fromToVia + viaToFinalCity;
      System.out.println("Total Distance: " + totalDistance + " miles. Time Taken: " + time + " hours.");
      scanner.close();
   }
}
```

OUTPUT:

```
Enter your name: ALLAN ROY
Enter starting city: chennai
Enter via city: kelambakkam
Enter destination city: omr food street
Enter distance from start to via city: 5
Enter distance from via to final city: 10
Enter time taken: 30
Total Distance: 15.0 miles. Time Taken: 30.0 hours.
```

**6. Calculate Rounds for 5 km Run**

```
import java.util.Scanner;


public class RunningRounds {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter side 1 of the park: ");
      double side1 = scanner.nextDouble();
      System.out.print("Enter side 2 of the park: ");
      double side2 = scanner.nextDouble();
      System.out.print("Enter side 3 of the park: ");
      double side3 = scanner.nextDouble();


      double perimeter = side1 + side2 + side3;
      int rounds = (int)(5000 / perimeter);


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

OUTPUT:

```
Enter side 1 of the park: 12
Enter side 2 of the park: 30
Enter side 3 of the park: 50
The total number of rounds the athlete will run is 54 to complete 5 km.
```

**7. Divide Chocolates Among Children**

```
import java.util.Scanner;


public class DistributeChocolates {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter number of chocolates: ");
      int chocolates = scanner.nextInt();
      System.out.print("Enter number of children: ");
      int children = scanner.nextInt();


      int chocolatesPerChild = chocolates / children;
      int remainingChocolates = chocolates % children;


      System.out.println("Each child gets " + chocolatesPerChild + " chocolates and remaining chocolates are " + remainingChocolates);
      scanner.close();
   }
}
```

OUTPUT:

```
Enter number of chocolates: 10
Enter number of children: 5
Each child gets 2 chocolates and remaining chocolates are 0
```

**8. Calculate Simple Interest**

```
import java.util.Scanner;


public class SimpleInterest {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter Principal: ");
      double principal = scanner.nextDouble();
      System.out.print("Enter Rate of Interest: ");
      double rate = scanner.nextDouble();
      System.out.print("Enter Time: ");
      double time = scanner.nextDouble();


      double simpleInterest = (principal * rate * time) / 100;
      System.out.println("The Simple Interest is " + simpleInterest);
      scanner.close();
   }
}
```

OUTPUT:

```
Enter Principal: 10
Enter Rate of Interest: 5
Enter Time: 30
The Simple Interest is 15.0
```

**9. Maximum Handshakes**

```
import java.util.Scanner;


public class MaxHandshakes {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter number of students: ");
      int n = scanner.nextInt();


      int handshakes = (n * (n - 1)) / 2;
      System.out.println("The maximum number of handshakes is " + handshakes);
      scanner.close();
   }
}
```

OUTPUT:

```
Enter number of students: 73
The maximum number of handshakes is 2628
```

**10. Convert Pounds to Kilograms**

```
import java.util.Scanner;


public class PoundsToKg {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter weight in pounds: ");
      double pounds = scanner.nextDouble();
      double kg = pounds / 2.205;
      System.out.println("The weight of the person in pounds is " + pounds + " and in kg is " + kg);
      scanner.close();
   }
}
```

OUTPUT:

```
Enter weight in pounds: 10
The weight of the person in pounds is 10.0 and in kg is 4.535147392290249
```