LAB TASK 1

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SOFTWARE CONSTRUCTION AND DEVELOPMENT

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SOFTWARE ENGINEERING GREEN
SUBMITTED TO: MAM ZAINAB TAHIR
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1. Convert Temperature from Fahrenheit to Celsius

```java
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("Temperature in Celsius: " + celsius);
    }
}
```

Output:

```
PS E:\PAF-IAST\PAF IAST 6th\Software Construction\LAB\LAB 1>
CodeDetailsInExceptionMessages' '-cp' 'C:\Users\sufya\AppData
itToCelsius'
Enter temperature in Fahrenheit: 67
Temperature in Celsius: 19.444444444444443
```

2. Convert Inches to Meters

```java
import java.util.Scanner;

public class InchesToMeters {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter length in inches: ");
        double inches = scanner.nextDouble();
        double meters = inches * 0.0254;
        System.out.println("Length in meters: " + meters);
    }
}
```
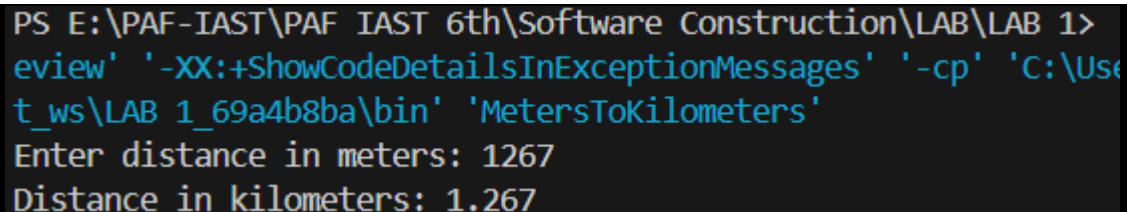
Output:

```
PS E:\PAF-IAST\PAF IAST 6th\Software Construction\LAB\LAB 1>
eview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Us
t_ws\LAB 1_69a4b8ba\bin' 'InchesToMeters'
Enter length in inches: 46
Length in meters: 1.1683999999999999
```

3. Convert Meters to Kilometers

```java
import java.util.Scanner;

public class MetersToKilometers {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter distance in meters: ");
        double meters = scanner.nextDouble();
        double kilometers = meters / 1000;
        System.out.println("Distance in kilometers: " + kilometers);
    }
}
```

Output:

```
PS E:\PAF-IAST\PAF IAST 6th\Software Construction\LAB\LAB 1>
eview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Use
t_ws\LAB 1_69a4b8ba\bin' 'MetersToKilometers'
Enter distance in meters: 1267
Distance in kilometers: 1.267
```

4. Convert Minutes into Years and Days

```java
public public static void main(String[] args) {
    Scanner scanner = new Scanner(System.in);
    System.out.print("Enter number of minutes: ");
    long minutes = scanner.nextLong();

    long minutesInYear = 60 * 24 * 365;
    long years = minutes / minutesInYear;
    long remainingMinutes = minutes % minutesInYear;
    long days = remainingMinutes / (60 * 24);

    System.out.println(minutes + " minutes is approximately " + years + " years and " + days + "
days.");
}{

}
```

Output:

```
PS E:\PAF-IAST\PAF IAST 6th\Software Construction\LAB\LAB 1>
eview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Us
t_ws\LAB 1_69a4b8ba\bin' 'MinutesToYearsDays'
Enter number of minutes: 179000
179000 minutes is approximately 0 years and 124 days.
```

5. Print Ranges of All Primitive Data Types

```java
public class PrimitiveDataTypesRange {
    public static void main(String[] args) {
        System.out.println("Byte range: " + Byte.MIN_VALUE + " to " + Byte.MAX_VALUE);
        System.out.println("Short range: " + Short.MIN_VALUE + " to " + Short.MAX_VALUE);
        System.out.println("Integer range: " + Integer.MIN_VALUE + " to " + Integer.MAX_VALUE);
        System.out.println("Long range: " + Long.MIN_VALUE + " to " + Long.MAX_VALUE);
        System.out.println("Float range: " + Float.MIN_VALUE + " to " + Float.MAX_VALUE);
        System.out.println("Double range: " + Double.MIN_VALUE + " to " + Double.MAX_VALUE);
        System.out.println("Character range: " + (int) Character.MIN_VALUE + " to " + (int)
Character.MAX_VALUE);
        System.out.println("Boolean values: " + Boolean.FALSE + " and " + Boolean.TRUE);
    }
}
```

Output:

```
t_ws\LAB 1_69a4b8ba\bin' 'PrimitiveDataTypesRange'
Byte range: -128 to 127
Short range: -32768 to 32767
Integer range: -2147483648 to 2147483647
Long range: -9223372036854775808 to 9223372036854775807
Float range: 1.4E-45 to 3.4028235E38
Double range: 4.9E-324 to 1.7976931348623157E308
Character range: 0 to 65535
Boolean values: false and true
PS E:\PAF-IAST\PAF IAST 6th\Software Construction\LAB\LAB 1>
```