

Methods

Problem Solving with Methods

Save this project as 'ConversionProgram'

Write a program that asks the user to enter a distance in meters. The program will then present the following menu of selections:

1. Convert to kilometers
2. Convert to inches
3. Convert to feet
4. Quit the program

The program will convert the distance to kilometers, inches, or feet, depending on the user's selection. Here are the specific requirements:

- Write a void method named `showKilometers`, which accepts the number of meters as an argument. The method should display the argument converted to kilometers. convert the meters to kilometers using the following formula:

$$\text{kilometers} = \text{meters} * 0.001$$

- Write a void method named `showInches`, which accepts the number of meters as an argument. The method should display the argument converted to inches. convert the meters in inches using the following formula:

$$\text{inches} = \text{meters} * 39.37$$

- Write a void method name `showFeet`, which accepts the number of meters as an argument. The method should display the argument converted to feet. Convert the meters to feet using the following formula:

$$\text{feet} = \text{meters} * 3.281$$

- Write a void method named menu that displays the menu of selections. This method should not accept any arguments.
- The program should continue to display the menu until the user enters 4 to quit the program.
- The program should not accept negative numbers for the distance in meters.
- If the user selects an invalid choice from the menu, the program should display an error message.

Here is an example session with the program, using console input. the user's input is shown in Bold:

Enter the distance in meters: **500**

- 1.Convert to kilometers
- 2.Convert to inches
- 3.Convert to feet
- 4.Quit the program

Enter your choice: **1**

500 meters is .5 kilometers.

- 1.Convert to kilometers
- 2.Convert to inches
- 3.Convert to feet
- 4.Quit the program

Enter your choice: **3**

500 meters is 1640.5 feet.

- 1.Convert to kilometers
- 2.Convert to inches
- 3.Convert to feet
- 4.Quit the program

Enter your choice: **4**

Bye!