

Java Miles to Kilometers Converter

Contents

Java Miles to Kilometers Converter	1
Here's What I Want You to Do	1
Here's Why I Want You to Do It	1
Assignment 1: Hard Coded	1
TODO	2
Assignment 2: User Input	3
TODO	3
Assignment Submission.....	4

Time required: 60 minutes

Here's What I Want You to Do

Create a Java console program that takes user input for miles and converts it to kilometers.

A good way to develop a program is to build it piece by piece. Agile development is about creating small step iteration between program versions.

We will build two versions of this program.

1. Hard coded value to test algorithm
2. Get input from user

Here's Why I Want You to Do It

Demonstrate understanding of:

Calculations, Variables, Constants, Input from user

Assignment 1: Hard Coded

Write a Java program named **MilesToKilo.java** that converts miles to kilometers.

- Use named constants. No magic numbers.

- Hard code the miles to be converted.
- Display the converted value in kilometers.

1 mile = 1.609344 kilometers

TODO

You can copy and paste the follow TODO outline to get started with this program.

This development (beta) version doesn't have to be pretty; it just has to work. You are using this version to test your algorithm (solution to the problem).

```
/**
 * Filename: MilesToKm.java
 * Written by:
 * Written on:
 * Revised:
 * Convert miles to kilometers
 */

class MilesToKm {
    public static void main(String[] args) {
        // TODO: Constant for miles to kilometers conversion

        // TODO: Hardcoded mile input variable

        // TODO: Create output variable

        // TODO: Convert miles to kilometers

        // TODO: Display output
    }
}
```

Example run:

```
*****
*                               *
*   Convert Miles to Kilometers   *
*                               *
*****
86.0 miles: 138.40324 kilometers
```

Assignment 2: User Input

This is the production version. You have solved the problem. Let's build a nice looking program with interactive input that accepts a mile value from a user and converts it to kilometers.

Copy and paste your development version into this file.

Save the class as **MilesToKilometersInteractive.java**

TODO

You can modify your existing TODO outline to get started with this program.

```
/**
 * Filename: MilesToKmInteractive.java
 * Written by:
 * Written on:
 * Revised:
 * Convert miles to kilometers with user input
 */
import java.util.Scanner;
class MilesToKmInteractive {
    public static void main(String[] args) {
        // TODO: Create scanner object for user input

        // TODO: Constant for miles to kilometers conversion

        // TODO: Create input variables

        // TODO: Create output variables

        // TODO: Print creative program title

        // TODO: Get user input

        // TODO: Convert miles to kilometers

        // TODO: Display output
    }
}
```

Example run:

```
*****
*                                     *
*   Convert Miles to Kilometers     *
*                                     *
*****
Enter miles >> 12.3
12.3 miles: 19.794882 kilometers
```

Assignment Submission

1. Attach the pseudocode.
2. Attach the program files.
3. Attach screenshots showing the successful operation of the program.
4. Submit in Blackboard.