**Introduction to Programming**

**SADITM** for \_Program02: Meters to Inches\_\_

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**Specification of the Problem:**

Write an application in C that will convert an integer value of meters to inches. Output the number of meters entered and the resulting inches.

**Analysis**: Data Requirements (Include libraries that will need to be imported and primitive data types of all variables)

**Narrative: Prompt** for meters. **Read** meters. **Compute** inches. **Output** meters. **Output** Inches.

**External Files to Include/Import**: <stdio.h>

**Input variables**: int meters

**Output variables**: int meters, double inches

**Program Variables:**

**Constants**: INCHES\_IN\_A\_METER = 39.37

**Formulas:**

inches = meters \* INCHES\_IN\_A\_METER

**Design**: Algorithm (include Program Variables to store intermediate results, if any)

**Algorithm**:

**Prompt** with “Please input your meters: “

**Read** meters

**Compute** inches = meters \* INCHES\_IN\_A\_METER;

**Output** “Your meters are “+meters+” and your meters as inches are “+inches+”.”

**Algorithm for other Methods / Functions:**

**Test Cases**: At least three test cases

1. meters = 24 (integer)

Your meters are 24 and your meters as inches are 944.88

1. meters = -23 (negative integer)

Your meters are -23 and your meters as inches are -905.51

1. meters = 0 (zero)

Your meters are 0 and your meters as inches are 0.0