

# CS170/01 Introduction to Python Programming – Spring 2020

## Week 2 Assignment

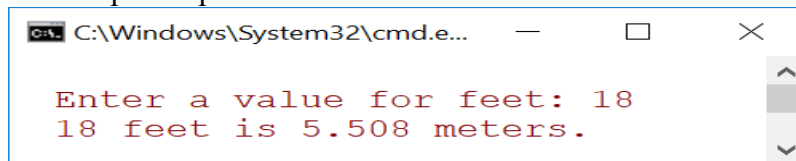
**Due on Wednesday, Feb. 5 at 11:59 p.m.**

**Note:** You are encouraged to discuss homework problems with other students, the tutors, and the instructor, but you must write your final answer by yourself. Solutions prepared “in committee” or by copying someone else’s work are not acceptable.

### 1. Converting feet into meters

Write a Python program that reads a number in feet, converts it to meters, and displays the result. One foot is 0.305 meter. Here is a sample run:

Sample output:



```
C:\Windows\System32\cmd.e...  
Enter a value for feet: 18  
18 feet is 5.508 meters.
```

#### Step by step guide (Pseudocode):

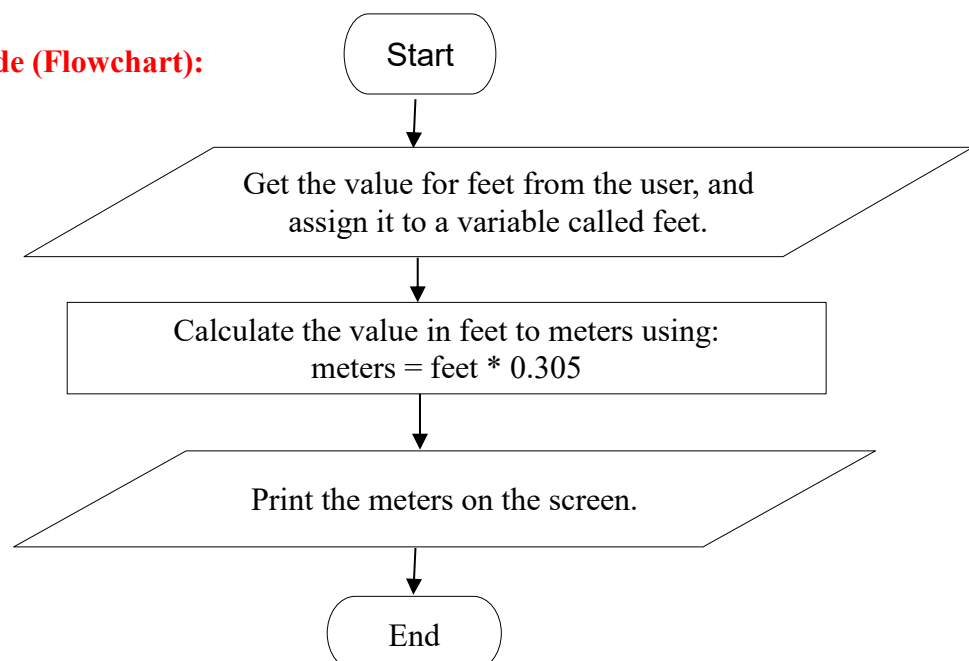
**Step 1:** Get the value for feet from the user, and assign the input value to a variable called **feet**.

**Step 2:** Convert the value in feet to meters equivalent, and assign the result to a variable called **meters**.

**Meters = feet\*0.305**

**Step 3:** print the meters on the screen.

#### Step by step guide (Flowchart):



## 2. Body Mass Index Calculator

Body Mass Index (BMI) is a measure of health on weight. It can be calculated by taking your weight (in pounds) times 703 and dividing by the square of your height (in inches):

$$\text{BMI} = \frac{\text{weightInPounds} \times 703}{\text{heightInInches} \times \text{heightInInches}}$$

Write a Python program that reads the user's weight in pounds and height in inches (in a single input statement for both values), and then calculates and displays the user's **body mass index**. In the program, declare the number 703 as named constant.

Sample output:

```
Enter the weight in pounds and then the height in inches,  
separate the two inputs using a comma: 140, 70  
  
The BMI is 20.085714285714285
```

### Step by step guide (Pseudocode):

**Step 1:** Get both the weight and the height from the user, and assign the two inputs to variables weight and height, respectively.

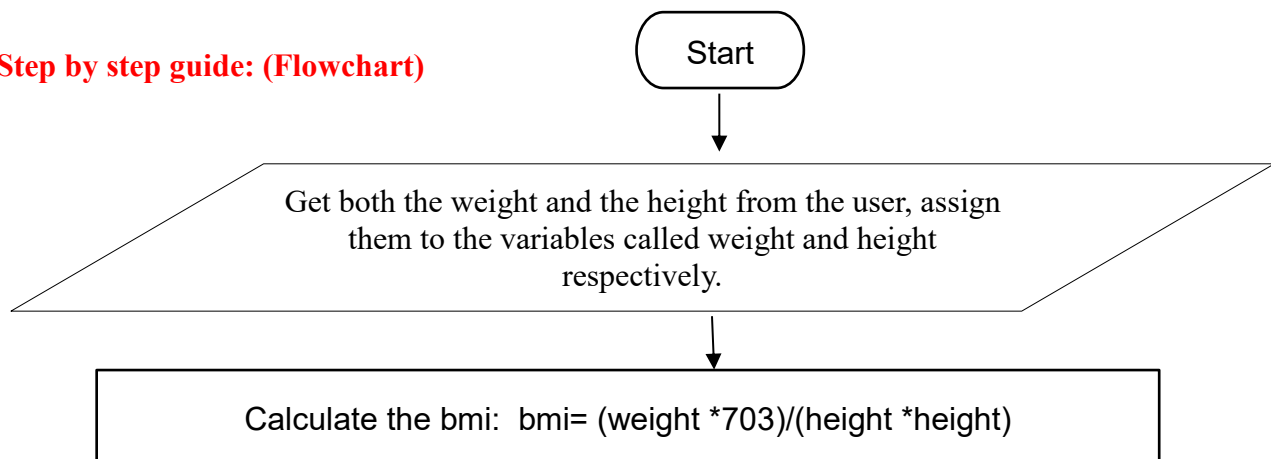
**Step 2:** Calculate the body mass index, and assign the result to a variable called bmi.

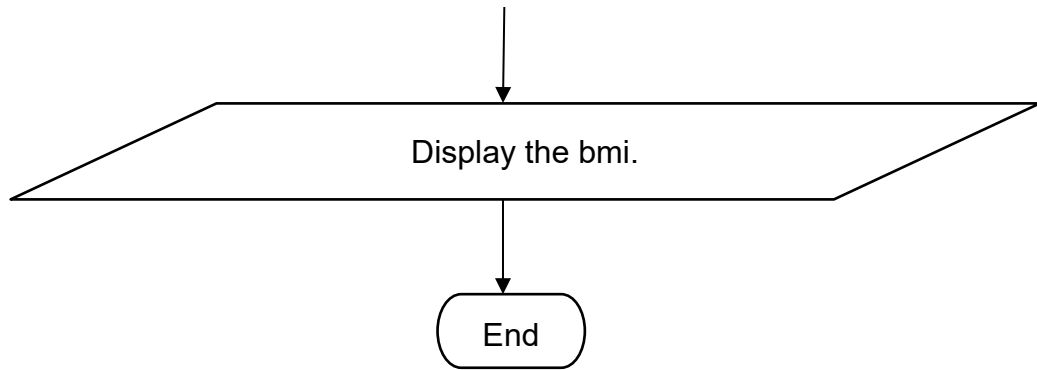
`bmi = (weight * 703) / (height * height)`

(**Note:** declare the 703 as named constant naming it as **converting**)

**Step 3:** Print the bmi.

### Step by step guide: (Flowchart)





Test the two programs. Upload the two complete Python files to the **Assignments → Weekly Homework → Week #2** folder on **Canvas**.