COSC1410
Spring 2016

Assignment 1: Basic C++ Syntax

[1] **Objective**: This is the first real assignment testing your understanding of variables, data types, assignment statement, expression, operators, constant, and some simple input/output.

[2] **Description**: Write a program that takes as input the height of a person expressed in feet and inches. The program should then convert and output the lengths into centimeters. Assume that the given lengths in feet and inches are integers.

The height is given in feet and inches, and you need to find the equivalent length in centimeters. One inch is equal to 2.54 centimeters. The first thing the program needs to do is convert the height given in feet and inches to number of inches. Then, you can use the conversion formula, 1 inch = 2.54 centimeters, to find the equivalent length in centimeters. To convert the length from feet and inches to inches, you multiply the number of feet by 12, as 1 foot is equal to 12 inches, and add the given inches.

For example, suppose the input is 5 feet and 7 inches. You then find the total inches as follows:

numInches = (12*feet) + inches

$$= 12 * 5 + 7$$

$$= 67$$

You can then apply the conversion formula, 1 inch = 2.54 centimeters, to find the length in centimeters.

centimeters = numInches * 2.54 // defined as a constant

$$= 67 * 2.54$$

$$= 170.18$$

Based on the analysis of the problem, you can write the code as the following procedures:

1. Get the length in feet and inches.
2. Convert the length into total inches.
3. Convert total inches into centimeters.
4. Output centimeters.

[3] **Input**: Length in feet and inches interactively.

[4] **Output**: Equivalent length in centimeters. Sample output is as follows:

Enter the height, one integer for number of feet and one integer for number of inches: 5 6

The height is 5 feet and 6 inch(es).

The height in inches = 66

The height is equivalent to 167.64 centimeters.

[5] **Deadline**: Feb. 10, 2016