ECE 111 – SP 23: Introduction to C and C++ Programming
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Assignment 2: Chapter 2 - Basic Elements of C++

Total Points: 100**; and Deadline:** February/07/2023, 11:59 PM.

Note – Cheating and Plagiarism: Cheating and plagiarism are not permitted in any form and cause certain penalties. The instructor reserves the right to fail culprits.

Deliverable: All your responses to the assignment questions should be included in a single compressed file to be uploaded to the Gannon University (GU) – Blackboard Learn environment.

Question 1 (10 pts.). Mark the following statements as true or false.

A. In C++, there is no difference between a reserved word and a predefined identifier.
B. The collating sequence of a character is its preset number in the character data set.
C. Only one of the operands of the modulus operator needs to be of type `int`.
D. In a mixed expression, all the operands are converted to floating-point numbers.
E. If the input is 7 and `x` is a variable of type `int`, then the statement `cin >> x;` assigns the value 7 to `x`.
F. Suppose `a = 5`. After the statement `++a;` executes, the value of `a` is still 5 because the value of the expression is not saved in another variable.

Question 2 (10 pts.). Which of the following variable declarations are correct? If a variable declaration is not correct, give the reason(s) and provide the correct variable declaration.

```
A. double 28.5 = num
B. string message = ''First C++ course';
```

Question 3 (10 pts.). Which of the following are correct C++ statements?

```
A. cout << "Programming with C++!" << endl;
B. cout << " Programming " << " with " <<
   << " C++" << endl;
C. cout << " Programming "
   << " with C++!" << '\n';
D. cout << "Programming with C++! ' << endl;
```

Question 4 (10 pts.). Preprocessor directives begin with which of the following symbol:

A. *
B. #
C. $
D. !
E. None of these.

Question 5 (10 pts.). Write the following compound statement as equivalent simple statement:

```
y *= 2 * x + 5 - z;
```

Question 6 (25 pts.). Write a program that takes as input any change expressed in cents. It should then compute the number of half-dollars, quarters, dimes, nickels, and pennies to be returned, returning as many half-dollars as possible, then quarters, dimes, nickels, and pennies, in that order. For example, 483 cents should be returned as 9 half-dollars, 1 quarter, 1 nickel, and 3 pennies.
Input: Change in cents.
Output: Equivalent change in half-dollars, quarters, dimes, nickels, and pennies.

Question 7 (25 pts.). Write a C++ program that prompts the user to input the elapsed time for an event in seconds. The program then outputs the elapsed time in hours, minutes, and seconds. (For example, if the elapsed time is 9,630 seconds, then the output is 2:40:30).