ENGG*1410 "Introductory Programming for Engineers", Assignment #1 Review of C Concepts

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Start Date: Week #1, Due Date: Week #2 (Friday, 5:00 PM) in Dropbox

1. Answer the following questions related to problem solving in general:

   - What are the steps required for solving any programming problem?
   - What are the programming tools used by a programmer to convert algorithms into computer programs?
   - What is the difference between a flowchart and Pseudo-code?

2. Answer the following questions related to the Von Neumann Architecture:

   - Describe briefly the structure of the Von Neumann Computer.
   - What are the steps taken by any CPU to run a program?

3. Answer the following questions related to programming languages in general:

   - What is the difference between (a) Source Code, (b) Object Code, (c) Executable code?
   - What are the most important statement structures in any programming language?
   - How do you classify Computer Languages used?
   - What are the advantages of a High Level Language over Assembly Language?

4. Answer the following questions related to the C Language:

   - When was the C language created?
   - What was the C language originally developed to create?
   - Why should programmers learn the C language?
   - What is the difference between the compiler and pre-processor in the C Language?
   - What is the line **#include <stdio.h> at the top of a C source file for?**
   - **What are some uses for comments?**
   - **What is the function of the semicolon in a C statement?**

5. Get the "Hello, world!" program to work on your computer. If you are using a Linux/Unix machine, the instructions in the notes should get you started. If you are using a commercial compiler on a home computer, the compiler's instruction manuals should tell you how to enter, compile, and run a program.

6. Write a program to print the numbers from 1 to 10 and their squares:

```
1            1
2            4
3            9
4            16
...          ....
10           100
```