Assignment 2

Student Name:	Grader Name:
Student UIN:	Grader UIN:

Reading Assignment: C++ Primer, 5th edition

- Chapter 2 – Variables and Basic Types

True or False:

1. **0.5 pt** – C++ is a statically typed language; type checking is done at compile time.
2. **0.5 pt** – Two string literals that appear adjacent to one another and that are separated only by spaces, tabs, or newlines are concatenated into a single literal.
3. **0.5 pt** – All objects must be explicitly initialized.
4. **0.5 pt** – Identifiers in C++ are not case-sensitive.

Short Questions:

1. **1 pt** – Describe the difference between initialization and assignment.
2. **1 pt** – What is the scope of a name?
3. **1 pt** – Determine the types and values of each of the following variables.
   (a) `int * ip, i, &r = i;`
   (b) `int i, *ip = 0;` (in a class as opposed to a function)
   (c) `int* ip, ip2;`
4. **1 pt** – Describe the difference between a pointer to a constant and a constant pointer.

Programming Challenge:

1. Construct a class named `SpeedData` using `struct`. This class should contain three data members: a `string` named scale, a `double` named speed, and an `int` named year. The scale should be mph or km/h.

   Write a first application that creates an instance of `SpeedData` using `stdin`, and then returns the speed on `stdout` in the two aforementioned formats. Write a second application that takes two speeds from `stdin` and returns the smallest of the two.
2. Implement your application in C++.
3. Commit your code as a CMake project on GitHub in a directory labeled `Assignment2`.