Assignment 1

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Reading Assignment: C++ Primer, 5th edition

- Chapter 1 – Getting Started

True or False:

1. **0.5 pt** – A stream is a sequence of characters read from or written to an IO device. **(T)**
2. **0.5 pt** – Comment pairs that begin with /* and end with */ can be nested in the code. **(T)**
3. **0.5 pt** – Operator == assigns the value of the right-hand operand to the object denoted by the left-hand operand. **(F)**
4. **0.5 pt** – The output operator << writes the right-hand operand to the output stream indicated by the left-hand operand. Output operands can be chained together, e.g., cout << "break" << "fast" writes "breakfast" to cout. **(T)**

Short Questions:

1. **1 pt** – The standard C++ library defines four IO objects. What are they?

   The four IO objects in the standard C++ library are: **cin, cout, cerr, clog.**

2. **1 pt** – What is the purpose of a namespace?

   In general, a namespace uniquely identifies a set of names so that there is no ambiguity when objects having different origins but the same names are mixed together. In other word, a namespace is a set of symbols that are used to organize objects of various kinds, so that there objects may be referred to by name. Namespaces help avoid inadvertent name clashed.

3. **1 pt** – What are the three parts of the for header?

   The for header has three parts, including initialization expression, condition expression and loop expression. For example, for (x=0; x<100; x++).

Programming Challenge: Write an application that prompts the user to enter two numbers, and then prints their sum.

1. Write pseudocode for the application.

```
int main()
{
    string input;
    int Num1 = 0;
    int Num2 = 0;
    try {
```

```
        print "Please input first number: ";
        input Num1;
        if the input is invalid throw runtime_error print out "Input is not an integer\n";
        print "Please input second number: ";
        input Num2;
        if the input is invalid throw runtime_error print out "Input is not an integer\n";

    } catch runtime_error {
        print out valid statement;
        return 1;
    }
    print The sum of your numbers: sum of Num1 and Num2;
    return 0;
}
```

2. Implement your application in C++.

```
#include <iostream>
#include <stdexcept>
using namespace std;

int main()
{
    string input;
    int Num1 = 0;
    int Num2 = 0;
    try {
        cout << "Please input first number: ";
        cin >> Num1;
        if (cin.fail()) throw runtime_error("Input is not an integer\n");
        cout << "Please input second number: ";
        cin >> Num2;
        if (cin.fail()) throw runtime_error("Input is not an integer\n");

    } catch (const runtime_error& e) {
        cout << e.what();
        return 1;
    }
    cout << "The sum of your numbers: " << Num1+Num2<< endl;
    return 0;
}
```

3. Using Git, commit your code as a CMake project in a directory labeled Cpp and under project name Code1.

   Attached in Github.