CPSC 410

Project 3

Motivation: Topics covered by this project;
- Mutexes, Threads
- Chapter 5 in Stallings

Overview
std::cout is not threadsafe, if you try to send output to it from many different threads the output can get garbled. Especially if you do something like this;

<mark>std::cout<<data1<<data2<<data3<<data4<<std::endl;</mark>

Your task, gentle reader, is to remedy this situation and produce a tool that will ease the considerable burden of developing and debugging your upcoming project 4.

Requirements:
Please provide me with

tester.cpp - file that launches **many threads**, each of which output strings to the console using above syntax.

output.cpp and .h – Contain a series of functions that are threadsafe and easy to use from anywhere in a project, here are their declarations:

```
void PRINT1(std::string &txt);
void PRINT2(std::string &txt, std::string &txt1);
void PRINT3(std::string &txt, std::string &txt1, std::string &txt2);
void PRINT4(std::string &txt, std::string &txt1,std:: string &txt2, std::string &txt3);
void PRINT5(std::string &txt, std::string &txt1, std::string &txt2, std::string &txt3, std::string &txt4);
```

Sample use
```
std::string s1="some";
std::string s2="data";


PRINT2(s1,s2);
```

Teams
<mark>Please work 2 to a team. Please include a description of what each team member did as part of your submission. Percentage responsibility for the final product is fine.</mark>

Grading

I will drop your tester.cpp and into the appropriate places in my project. Therefore these are the only files that I need from you.

40% tester.cpp works correctly
60% output.cpp and .h work correctly

This assignment is relatively easy so it is weighted 1.0 times the weight of project 1