

# 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;

```
std::cout<<data1<<data2<<data3<<data4<<std::endl;
```

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.

### What I've given you:

tester.h

print\_ts.h

### Requirements:

Please provide me with the following 2 files (**please note the case**)

tester.cpp

print\_ts.cpp

And an answer to the questions below in the file answers.txt

1. How do you determine the number of threads you should launch to realistically test your application?

2. If you are launching several threads, under what circumstances would these threads not run in parallel on a modern processor?

### Sample usage

```
std::string s1="some";  
std::string s2="data";  
PRINT2(s1,s2);
```

### Teams

Individual effort. No teams for this project please.

## Grading

Please submit just the 3 files, please do not zip them, or enclose them in a directory structure in any way. Just the 3 files.

10% project files submitted correctly

20% questions correct

30% tester.cpp works correctly

40% print\_ts.cpp works correctly

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