Programming Assignments

Design and Development

The purpose of each of the three required documents is to guide you in the planning, designing, and implementation of a good, robust, object oriented program.

Preliminary Class Diagram

This is a diagram of the classes and their relationships. This must be a UML Class Diagram using standard UML diagram formats and widgets. It must also include a brief description of each class.

Class Outline

This document will list all proposed member variables and functions in each class with a brief description of what each does. Pseudocode for each function is NOT required in this document.

Functionality Outline

This document shall be an outline which will show the step-by-step algorithm for each function in each class in the program. This should be taken out to a fair amount of detail, i.e. pseudocode IS required in this document.

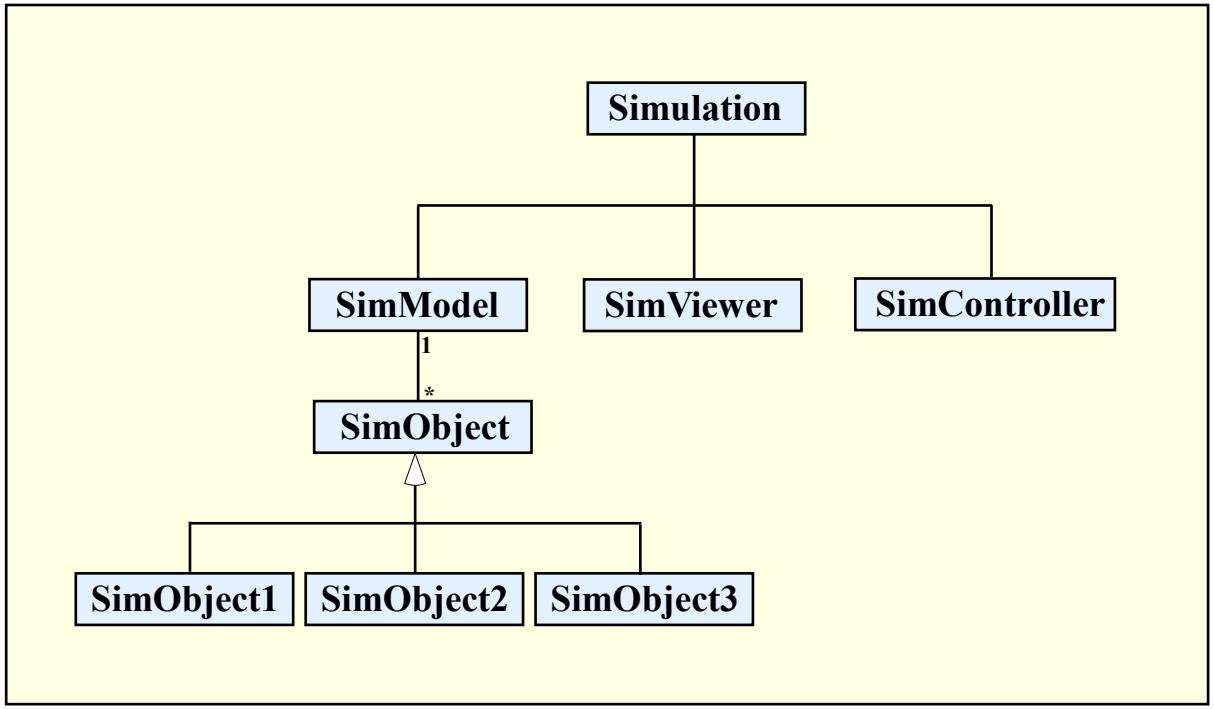
Final Project

Fully functional program submitted as the entire Visual Studio solution folder in a .ZIP, .7Z, or .RAR file. Just turning in source code is not acceptable.
VISUAL STUDIO 2017 PROJECTS ONLY!

Programming Assignments

Preliminary Class Diagram

UML Class Diagram using standard UML diagram formats and widgets.



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Programming Assignments

Class Outline

List all proposed member variables and functions in each class with a brief description of what each does.

There should be a title page and a table of contents also.

1.0 System Overview
Brief description of what this program will do.

2.0 Object Description
2.1 Class *whatever*
2.1.1 Member Variables
Var_1 - Brief description
Var_2 - Brief description
etc.
There will be get and set functions defined for each private variable.
2.1.2 Member Functions
2.1.2.1 Function *functionName*
Actions Performed - Brief description of what service/action this function will handle.
Arguments - Brief description of the proposed or anticipated in/out arguments.
Return Value - A statement of what the return value will likely be.
Etc. for each function
Etc. for each class

Point Value: 5

Programming Assignments
Functionality Outline

Give the step-by-step algorithm for each function in each class.
This should be in detailed pseudocode.

There should be a title page and a table of contents also.

```
1.0 System Overview
        Brief description of what this program will do.
2.0 Object Functionality
        2.1 File: MyProgram.cpp
                2.1.1 main()
                        Instantiate Simulation object
                        Call Simulation::initializeSimulation
                        Call Simulation::runSimulation

        2.2 Simulation.cpp
                2.2.1 initializeSimulation()
                        Query user for name of the data file
                        Create instance of data parser
                        Get data to define each simulation object data from data parser.
                        Instantiate all simulation objects and store in container of objects
                                details here of what objects are instantiated and how they are stored.
                2.2.2 runSimulation()
                        Begin timer loop
                                Check current time
                                if time to update
                                        update state of all simulation objects
                                                details here of how to do update each object's state
                                        display report to user on screen
                                                details here of what the display will contain and what it will look like
                                        update time for next report
                                check user input from keyboard
                                if "has keyboard input"
                                        handle keyboard input
                                        details here of what to do for each valid keyboard input
                                        if keyboard input indicates "Exit Application"
                                                set timer loop termination flag
                        end timer loop
```

Point Value: 5

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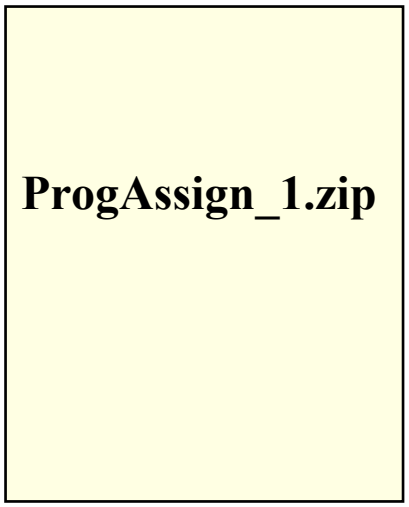

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Programming Assignments

- **Programming assignments must be your own work.**
  - **You may not get someone to do the assignment for you.**
  - **You may not get someone to tell you how to do the assignment.**
  - **You may not work together with someone to complete the assignment.**
- **If you are having problems with a programming assignment use the proper resources.**
  - **Discussion board**
  - **Professor**
  - **Teaching assistant**
- **If you work with another student on an assignment, or copy someone else's work, this is cheating.**
  - **You and the person(s) you worked with will get a zero on that assignment.**