School of Science, Computing and Engineering Technologies

Object Oriented Programming

Distinction Task 6.3: D Level Custom Program

Overview

At this stage you should have enough understanding of object oriented programming to start thinking about creating your own custom program.

Purpose:	Demonstrate that you can design and implement your own program using object oriented programming tools.
Task:	Create your own program, UML class diagrams, and design document.
Time:	This task should be completed by the time you submit your final portfolio the end of the semester, but progress should be submitted periodically.

Note: Only start this once you have your program plan signed off.

Submission Details

You must submit the following files:

- The code for your program
- A picture of your final UML class diagram
- A short design / usage document outlining what your program does and how it works.

Note: If you are attempting a HD level custom program, just submit that. You do not need two separate custom programs!

Note: This task is assessed in your portfolio interview. You can get feedback on it from your tutor during semester, but it will not be signed off.

Instructions

You have now completed tasks related to all of the unit learning outcomes, and can work toward demonstrating these in your own program. If you are aiming for a Distinction or higher grade you should start working on this program now. Aim to create something of at least the complexity of the drawing program or the case study. Specifically it should:

1. Demonstrate the use of abstraction — create your own classes that model the domain.
2. Demonstrate the use of inheritance and polymorphism
3. Demonstrate the use of UML diagrams to explain how your solution works.
4. Demonstrate appropriate use C# coding conventions - case, indentation
5. Demonstrate the use of code documentation.
6. Demonstrate appropriate use of structured programming principles (no goto in OO programs either!)
7. Use the checklist on the next page to make sure you have everything you need to submit!

Here are some steps to get you started:

1. Think about what you want the program to do. Maybe write up a paragraph or two to explain it to others. Drawing a picture of what you want it to look like is also a great idea.
2. Show your plans to your tutor, lecturer, help desk staffers, and/or friends to get some feedback.
3. Start thinking about the objects you will need?

Tip: Start small and iteratively build up your larger program!

4. Get something working quickly. You want to see it running ASAP. Once it is working build it a little at a time, get one thing working then move on to the next aspect.

You should periodically check in with your tutor and show them your progress. They can help you know if you have done enough work to meet the Distinction (and High Distinction) criteria.

Note: Your program should be different from the Pass and Credit task programs and from the lecture demonstration programs. You want to demonstrate that you have learnt from these tasks and can apply what you have learnt to some other program design.

If you are aiming for a High Distinction, review the related High Distinction Project document for details on how you can ensure this program meets the HD requirements.

Custom Program Checklist

- ☐ Make sure you have your program plan checked by your tutor. See the associated planning task for details. Ideally this should be signed off before you start writing the code.
- ☐ Ensure that you have reviewed the Distinction and High Distinction criteria from the relevant tasks.
- ☐ Implement enough of the program to demonstrate unit learning outcomes.
- ☐ Create a screenshot of your program (image)
- ☐ Create an updated your design report
  - ☐ List the classes you ended up creating
  - ☐ Describe the main methods and design features in your code — just the ones that are core to understanding how your program works.
  - ☐ Update your UML class diagram
- ☐ Submit the design report, screenshot, UML class diagram, concatenated code (combine it all into one file for submission), and any other artefacts you think will be useful