

COS20007 Object Oriented Programming

Pass Task 7.1: Key Object Oriented Concepts

Instructions

To make the most of programming, you need to deeply understand the principles that underly the paradigm that you are using.

For this task you must **explain** the principles of object oriented programming and **relate** these to the programs you have created. You must also **visualise** how these principles are related in a concept map.

Note: An explanation is more than just a description, you want to convey a deeper understanding that can be achieved with a simple description. Try to relate the principles together and express the depth of your understanding.

Tip: A deep explanation does not need to be a long one. Aim to convey your understanding in a concise fashion.

Tip: Refer to your visualisation (i.e., concept map) in your written explanations.

Create an article / blog post / letter to a friend / comic / movie / podcast / etc that explains the principles of object oriented programming, as you understand them, and outline what qualities you should look for in good object oriented programs.

Draw a concept map to accompany your explanation, that elaborates on the relationships between the concepts and programming artefacts.

Requirements:

1. Keep it to about 1 or 2 pages of text (if text based)
2. Videos or podcasts should be kept as short — but still demonstrate depth of understanding.
3. Relate the concepts to programs **you** have written in this unit.

Tip: Including references to textbooks (not wikipedia) or research papers can help you strengthen your explanation. Remember to reference other peoples work.

Tip: Be creative, box and line concepts maps are ok but if you can make it more visual go for it. We encourage you to use metaphors to communicate ideas.

Make sure your explanation covers the following (as a minimum, feel free to extend this):

Concepts	Artefacts	Action	Terminology
Abstraction	Class	Method Call	Value Type
Encapsulation	Object	New	Reference Type
Inheritance	Interface		Abstract Class
Polymorphism	Method		Abstract Methods
Roles	Fields		Private
Responsibilities			Public
Collaborations			Protected
Coupling			Overload
Cohesion			Override
			Virtual