110CT: research of OO programming concepts, including data abstraction, encapsulation, classes and objects and APIs, supported with in-text citations/references. (A maximum of two pages)

Object orientated programming is totally different to other programming languages because instead of normal programming ways which use actions, object orientated uses objects.

One of the first steps that happen in object orientated programming is that you have to classify all of the objects that the programmer wants to operate and how they will all link together, this is known as data modelling. Once the object has been acknowledged, it will now generalize as an actual class of the object, which will define the different kind of data about the object.

The main concepts and rule used in Object oriented programming:

* Data classes make it possible to be able to state the subclasses of the objects that share some of the main class functions. This is called inheritance, so the subsets will inherit functions from the main class. This will save a lot of time because instead of programming everything separately you can just inherit some features.
* Once the class has been defined then only the data is then needed to be concerned with it
* The main concept of data classes is that it enables the programmer to be able to create any different type of new data type that is not already been defined by the language.

Many different gaming companies use Object orientated programming, they use it because it is a lot easier then programming things from scratch individually. For example in a racing game the main class would be a car then the subset would be different types of cars for example a BMW, Mercedes, Audi and many more different cars. You could open up the subsets and also change the functions of the cars for example the handling, the braking and also things like the colour.

**Data Abstractions**

This is the process when you take something or remove a certain characteristic from something and the result of this would be that it would reduce it to a set of only the main characteristics.

**Encapsulation**

This is the storing of the data and also the functions into a main single component. Then this is supported by using classes in most of the object and orientated programming languages, but there is other ways as well that do exist. Another thing which it allows is the hiding of the properties and even the methods in an object; it does this by making an implementable wall to take care of the code from the accidental corruption.

**Resources**

<http://searchsoa.techtarget.com/definition/object-oriented-programming>

(Fri, 28th November 2014)

<http://whatis.techtarget.com/definition/abstraction>

(Mon, 1st December 2014)

<http://en.wikipedia.org/wiki/Encapsulation_%28object-oriented_programming%29>

(Mon, 1st December 2014)