

Mark P. McCreery

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### Week 5 Research Prompts

Classes are blueprints or templates for objects. A class will define properties of objects as well as how they react. Objects are instances of classes. The main difference between the two is that objects are pre-defined and have set values whereas classes are more dynamic.

The four pillars of Object-Oriented Programming are Encapsulation, Abstraction, Polymorphism, and Inheritance. Abstraction in object-oriented programming ties up complexities in the code and makes it more readable to the coder and anyone who is going to access the code. Encapsulation is keeping the code nice and organized by grouping similar and related code together so that the code can't be affected by other code unless it is needed. An example would be that it "encloses" objects and their methods in a way that you can't accidentally overwrite variables unintentionally or cause bugs. Inheritance allows for objects to gain properties and methods from other objects. This is useful so that code is not repeated, and one object can gain the properties of already written code. Finally, Polymorphism is the utility of the code on different objects. If reliably written, methods written on the child object can be called on by the parent object.

Works Cited

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