

In your own words, what is object-oriented programming? What are the benefits of OOP?

Object orientated programming is more focused around data with specific attributes and characteristics instead of performing functions. A benefit of objects is that their contents can be modified by attaching methods to them. OOP is very beneficial to optimize code and be able to reuse it on different data.

What are objects and classes in Python? Come up with a real-world example to illustrate how objects and classes work.

Object - data that is an instance of a class and follows its structure

Class - a template to create and structure objects

An example of a class could be **shoes**, which would require the objects in it to have a **size**, **color**, and **style**.

In your own words, write brief explanations of the following OOP concepts; 100 to 200 words per method is fine.

Method	Description
Inheritance	Inheritance allows for a class (child) to take on only some properties from a different class (parent) without having to recreate a class entirely or copy over unnecessary data
Polymorphism	Allows for a method with the same name to perform different operations depending on where it's defined
Operator Overloading	Can be used to define custom behaviors for operators so that they can handle different types of objects