Using C++ to Create a Calculator on Rhyme

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OOP

- OOP is a guiding principle for some programming languages
  - C++ is one of them
- C++ is built off of C, which does not support OOP natively, but doesn't stick to the concept as much as other languages
  - Java is a language that is tightly tied to OOP
- We aim to view our world (and thus programs) in terms of objects and classes
  - Each object should mimic a real life object, and a class is a template for how to create one of these objects
  - A good example is with an apple pie
    - An apple pie itself is a object
    - The recipe from which we made the pie is a class

Methods vs. Functions

- Methods vs Functions can be a very confusing concept, especially if you have previous experience in another programming language
- Functions are methods that are not associated with a class
  - Also known as “free functions”
  - They do not require an instance of the class to be instantiated for the method to be called
- Functions contained within a class are called methods
  - Even static methods, that don’t depend on instance values, are still methods since they are associated with a class file
- A common example of a function is any function that is composed in the main file
  - Even the main itself is a function
- An example of a method is the print method we have for a calculator

Test Driven Development (TDD)

- TDD is a critical part of modern application design
- We aim to produce a minimally viable product (MVP) that meets a user's basic needs
- We first write the tests that we plan to use to evaluate the final product
  - Forces us to define scope and see what constitutes a successful program
- A team then works on building the MVP, with frequent testing of each subsystem
- The MVP is then improved and polished based on user feedback and testing results

Hope you enjoyed the course!

Feel free to leave feedback or reach out to me on LinkedIn