

## 1. Object Oriented Programming (OOP)

Object-oriented programming is organized around using objects to make your code. We use instance methods to define behavior.

Work on Creating a Bank Account file: <https://github.com/kdutta9/CS-Education>

- Should be on the folder entitled “Intro to OOP”

The Pieces:

- Class declaration defines a new type of object, i.e., new type of structured container.
- Instance variables such as balance are the simple containers within these objects (fields or components).
- Instance methods, such as deposit and withdraw are like ordinary (static) methods that take an invisible extra parameter (called this).
- The new operator creates (instantiates) new objects, and initializes them using constructors.
- Constructors such as the method-like declaration of Account are special methods that are used only to initialize new instances. They take their arguments from the new expression.
- Method selection picks methods to call. For example, myAccount.deposit(100) tells us to call the method named deposit that is defined for the object pointed to by myAccount.

Cleaning Up the Code:

- Private methods to access sensitive information (balance, amount)

Try running some statements, to see how it works. Explain why different accounts can't change another's values.

```
Account myAccount = new Account(1000);
myAccount.balance myAccount.deposit(100);
myAccount.withdraw(500);
Account anotherAccount = new Account(50);
anotherAccount.withdraw(600);
```