SOFTWARE ENGINEERING: OBJECT ORIENTED DESIGN

Professors M. Brian Blake and Iman Saleh

OO Design Principles

- DRY (Don't repeat yourself)
  - Do you find yourself writing duplicate code → Try to abstract and extract common functionality
  - Do you have very similar classes → Consider inheritance/ composition
  - But don’t use same code to implement two different functionalities. For example: Validations of SSN and Student ID shouldn’t be the same even though they both validate numbers.

- Program for Interfaces and not for Implementations
  - This way, the change in implementation doesn’t break your code.

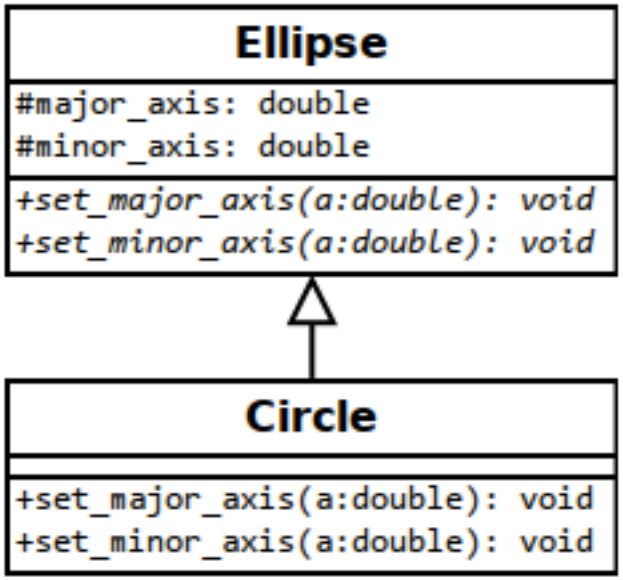
OO Design Principles

- Delegation
  - Design your classes to encapsulate all related functionalities. For example, don't implement a client that formats a string. Make the string class supports the formatting itself → no code duplication and easier changes to behavior

- Encapsulate the code you expect to changes
  - The Factory design pattern is an example.

Use Inheritance Wisely

- The Circle-Ellipse Problem



Any Questions?

iman@miami.edu