

Module 3: Object-Orientation in Go

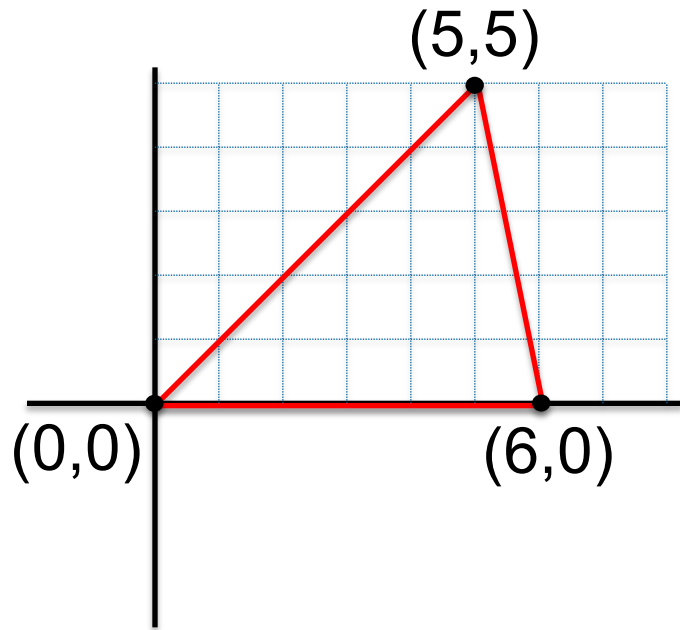
Topic 1.1: Classes and Encapsulation

Classes

- Collection of data fields and functions that share a well-defined responsibility
- Example: **Point** class
 - Used in a geometry program
 - Data: x coordinate, y coordinate
 - Functions:
 - `DistToOrigin()`, `Quadrant()`
 - `AddXOffset()`, `AddYOffset()`
 - `SetX()`, `SetY()`
- Classes are a **template**
- Contain **data fields**, not data

Object

- Instance of a class
- Contains real data
- Example: Point class



Encapsulation

- Data can be protected from the programmer
- Data can be accessed only using methods
- Maybe we **don't trust the programmer** to keep data consistent
- Example: Double distance to origin
 - Option 1: Make method `DoubleDist()`
 - Option 2: Trust programmer to double X and Y directly