

# Classes - Introduction

CS 165 – Object Oriented Software Development

Macbeth – Lesson 4.1

# Agenda

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- Opening Prayer
- Scripture
- Q&A
  - Review Project
- Introduction to Classes
- Looking Forward

# Scripture

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## **Proverbs 3:5-6**

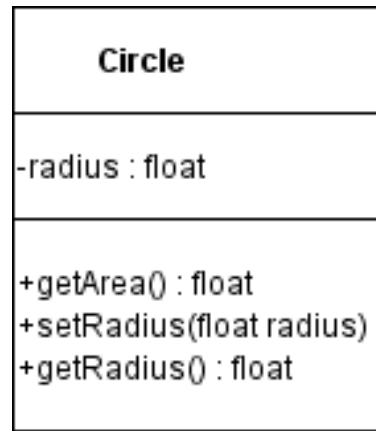
Trust in the Lord with all thine heart;  
and lean not unto thine own understanding.

In all thy ways acknowledge him,  
and he shall direct thy paths.

# Classes and Encapsulation

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- A class is a custom data type that contains both data (member variables) and functions (methods).
- The methods in a class provide the user of the class with an interface to interact with the class.
- Member variables are frequently hidden from the user requiring the use of methods to either access or manipulate the variables.
- The goal of a class is to hide the implementation from the user and provide only an interface of methods (and maybe some member variables) to use.



# File Structure

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- When you work with a class, you will have at least 3 files:
  - Header File – Contains the interface for the class
  - Class File – Contains the implementation for the class
  - Project File – Contains the main function that will use the class

Circle.h

Circle.cpp

project.cpp

# Looking Forward

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- End of Today
  - Submit Project 3
  - Last chance to submit Checkpoints A and B
- Tuesday
  - 04 Reading – Look in I-Learn
    - Section 2.0 – Encapsulation Design
    - Section 2.2 – Class Syntax
    - Section 1.5 – Subsection about Inline Functions
    - Additional Reading in I-Learn
  - Submit Checkpoint A