

# Chapter 7: Objects and Classes

# Introduction

- An **object** consists of internal data items plus methods that define operations that can be performed on the data.
- A **class** is a programming construct that groups together data and methods to create an object

String class	
Data	char [] arr, etc
Methods	indexOf
	equals
	substring

Rectangle class	
Data	Length
	Width
Methods	calcArea
	calcPerimeter

RunnerInfo class	
Data	timeRun
	distRun
Methods	setTime
	setDist
	getSpeedMPH

# Additional terms

- A **field** is a class member variable
- A **member method** is a method belonging to a class
- A **constructor** is a member method that is called automatically when an object of that class is created, and is used to initialize fields (variables) of the class

# Additional terms

- If a field or member is **private**, it can only be accessed or called by member methods
- If a field or member is **public**, it can be accessed or called by other classes
- Typically fields are private but can be modified or accessed using **mutator** or **accessor** methods, respectively.
- If a field member or method is **static**, then it can be accessed without creating an object
  - *Character.iswhitespace(ch)* is a static method of the *Character* class