

File I/O & Structures

CS 165 – Object Oriented Software Development

Macbeth – Lesson 2.1

Agenda

- Opening Prayer
- Scripture
- Q&A
- Kahoot!
- File I/O
- Introduce Structures
- Looking Ahead

Spiritual Thought

D&C 50:22

Wherefore, he that preacheth and he that receiveth, understand one another, and both are edified and rejoice together.

Groups

- Please sit with your group each week (starting today):

<u>Team 1</u> Joshua Dean Lucas Freitas Shawn Hillman Jai Fuller	<u>Team 2</u> Teddy Gehoski Lauren Reed Trey McLaughlin Benjamin Moffett	<u>Team 3</u> Makenzie Allen Ryan Lavin Christian Martinez Child Makella
<u>Team 4</u> Jeong Geun Kim Daniel Wright Dylan Bullock Christopher Lujo	<u>Team 5</u> Joseph Franks Brandon Camacho Matthew Malloy Jason Meziere Bron Neibaur	<u>Team 6</u> Heather Hanks Emily Togagae Josh Richardson Bryan Heder Britt LeFevre
<u>Team 7</u> Kyle Walker Jordan Hakes Mauricio Kiyama John Larson Jim Tang		

Review Last Project

- What was the hardest part?
- What lessons did you learn?
- When I share my code on the screen, please do not take pictures 😊

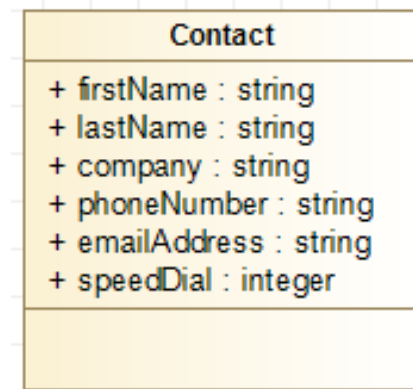
File I/O

	Input / Reading	Output / Writing
Library for File I/O	#include <fstream>	
Create File Stream	ifstream fin("a.txt");	ofstream fout("b.txt");
Failure Opening a File	fin.fail()	fout.fail()
Read/Write 1 word or value	<pre>fin >> text;</pre> <p>NOTE: You can use this in your while loop. It will return false if EOF is reached. Example:</p> <pre>while (fin >> text) { // Do stuff }</pre>	<pre>fout << text;</pre>
Read/Write 1 line	<pre>getline(fin, text);</pre>	<pre>fout << text << endl;</pre>
Close File Stream	<pre>fin.close();</pre>	<pre>fout.close();</pre>

Structures

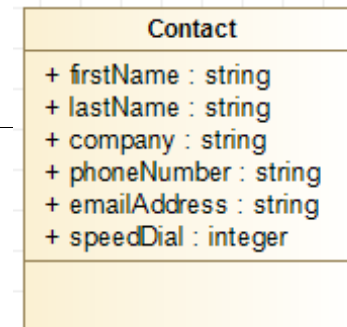
A structure is a custom data type that allows you to organize data into collections that make sense for your application.

```
struct Contact
{
    string firstName;
    string lastname;
    string company;
    string phoneNumber;
    string emailAddress;
    int speedDial;
};
```



Structures

Structures can be accessed just like any other data type



Native Data Types	Structures
<code>string teacherPhoneNumber;</code>	<code>Contact teacher;</code>
<code>string friendEmails[100];</code>	<code>Contact friends[100];</code>
<code>bool addContact(string firstNames[], string lastNames[], ... , int numContacts, string newFirstName, string newLastName, ...)</code>	<code>bool addContact(Contact contacts[], int numContacts, Contact newContact)</code>
<code>bossCompany = "Google"</code>	<code>boss.company = "Google";</code>
<code>*momSpeedDial = 1;</code>	<code>mom->speedDial = 1;</code>

Looking Forward

- This is a summary of what is shown in I-Learn.
- Tuesday
 - 02 Prepare – Submit Checkpoint A by 11:59pm
- Wednesday
 - 02 Prepare – Submit Checkpoint B by 11:59pm
- Monday
 - 02 Prove – Assignment (Digital Forensics) by 11:59pm