Object-oriented Programming

When you make lots of one thing.
It’s one thing.
But you can make a bunch of them.

Why OOP?

- Attributes are linked (contrast arrays)
- Create many of one type of object
- Organize your code; avoid driving yourself mad

Dot notation

This is how we access the attributes of an object.

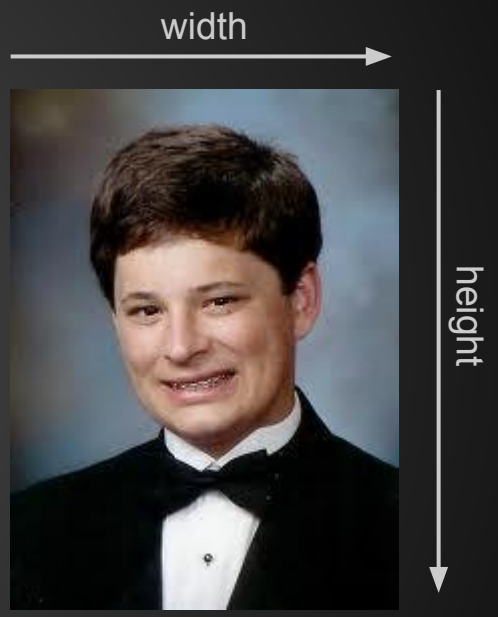
You've seen this before:

ofImage (or PImage in Processing)

ofImage yearbookPicture;

***

yearbookPicture.height;
yearbookPicture.width;

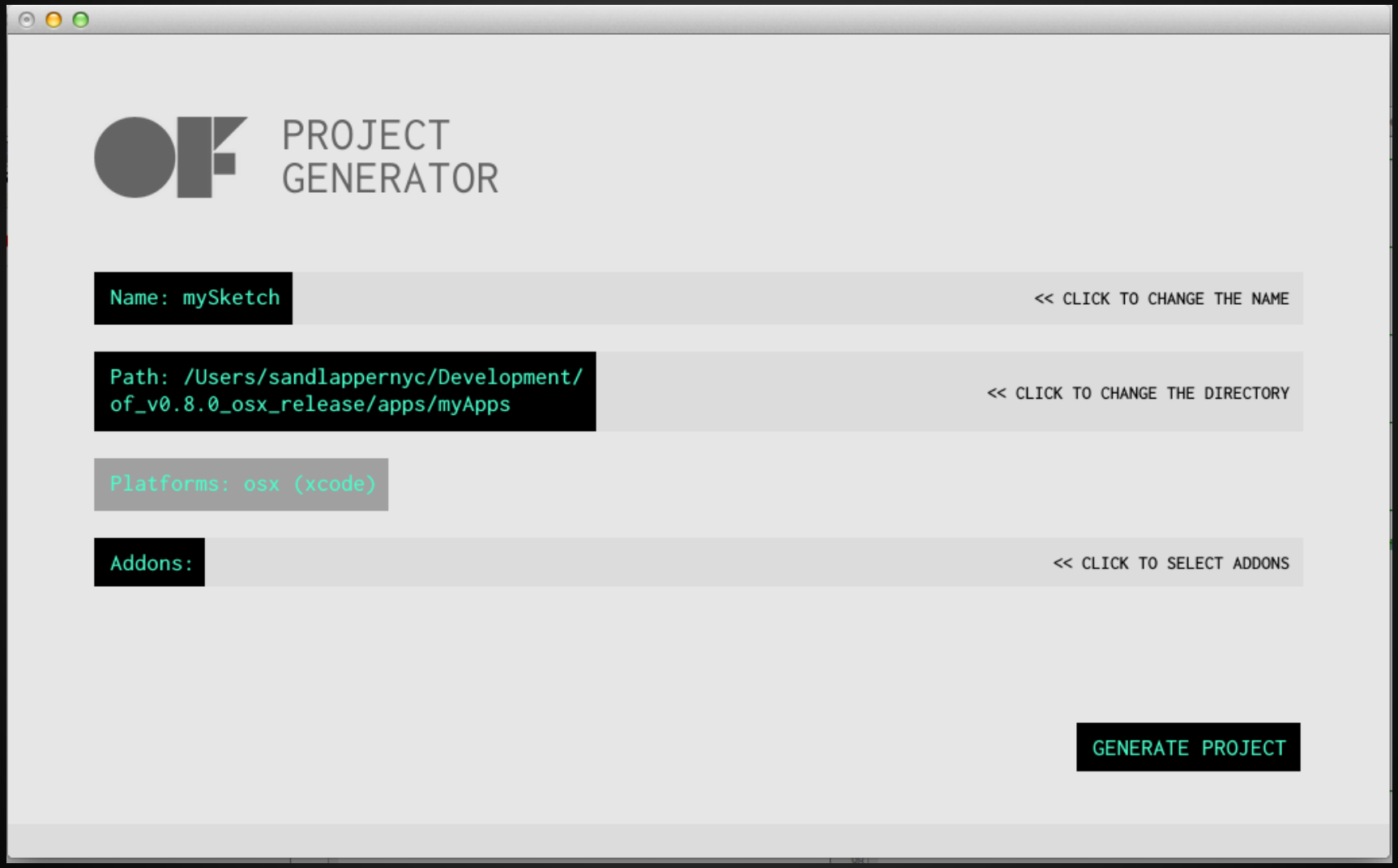


Width and length are variables within the ofImage class

And so it is with all objects...

```
enemyOne.health;     enemyOne.armorColor;
enemyTwo.health;     enemyTwo.armorColor;
```

Project generator



How to create a class in oF

Like testApp.h and testApp.cpp, classes in oF (and C++) are typically contained in two separate files.

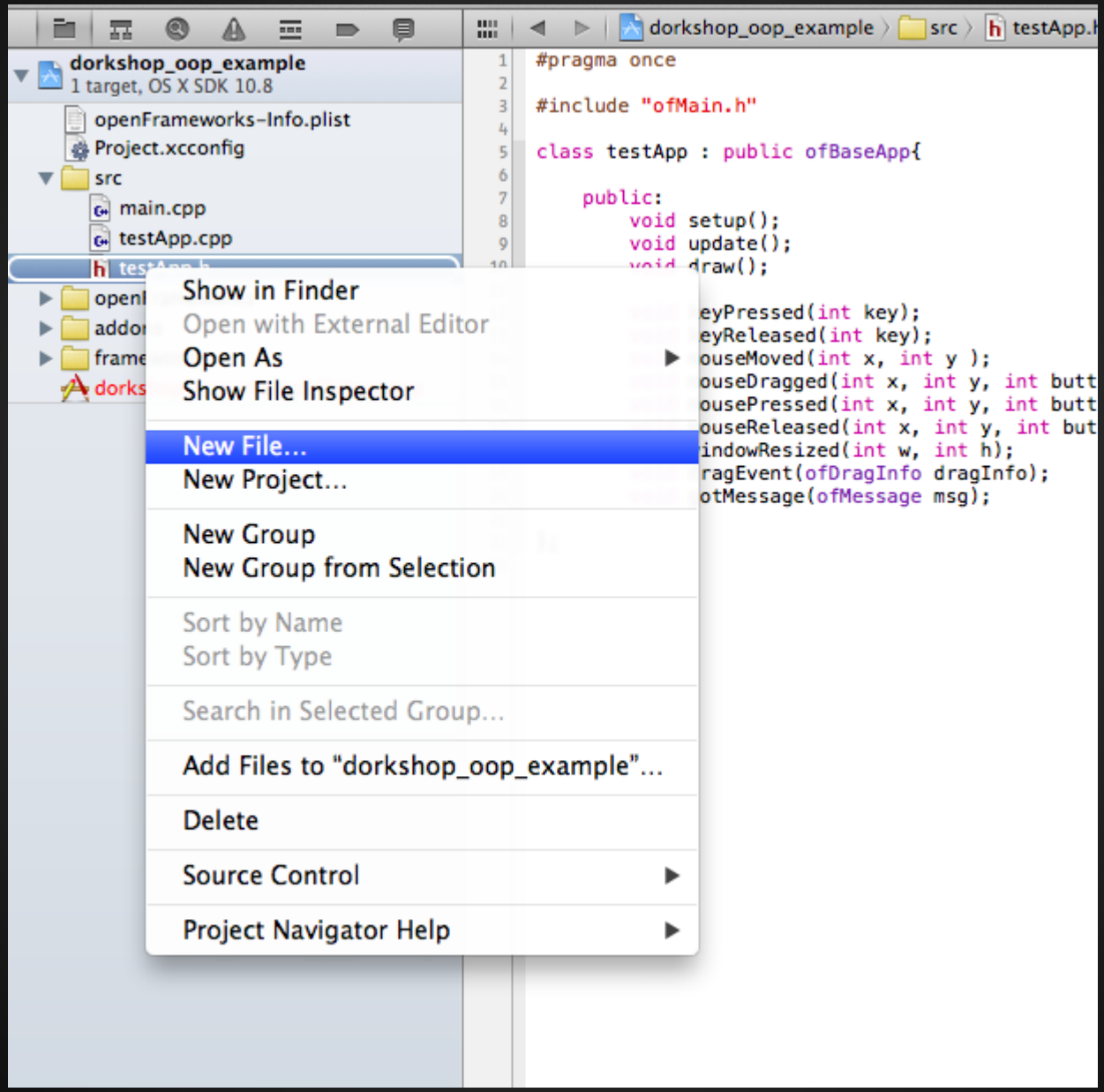
Header file: “AwesomeClass.h”

- Lists variables and methods

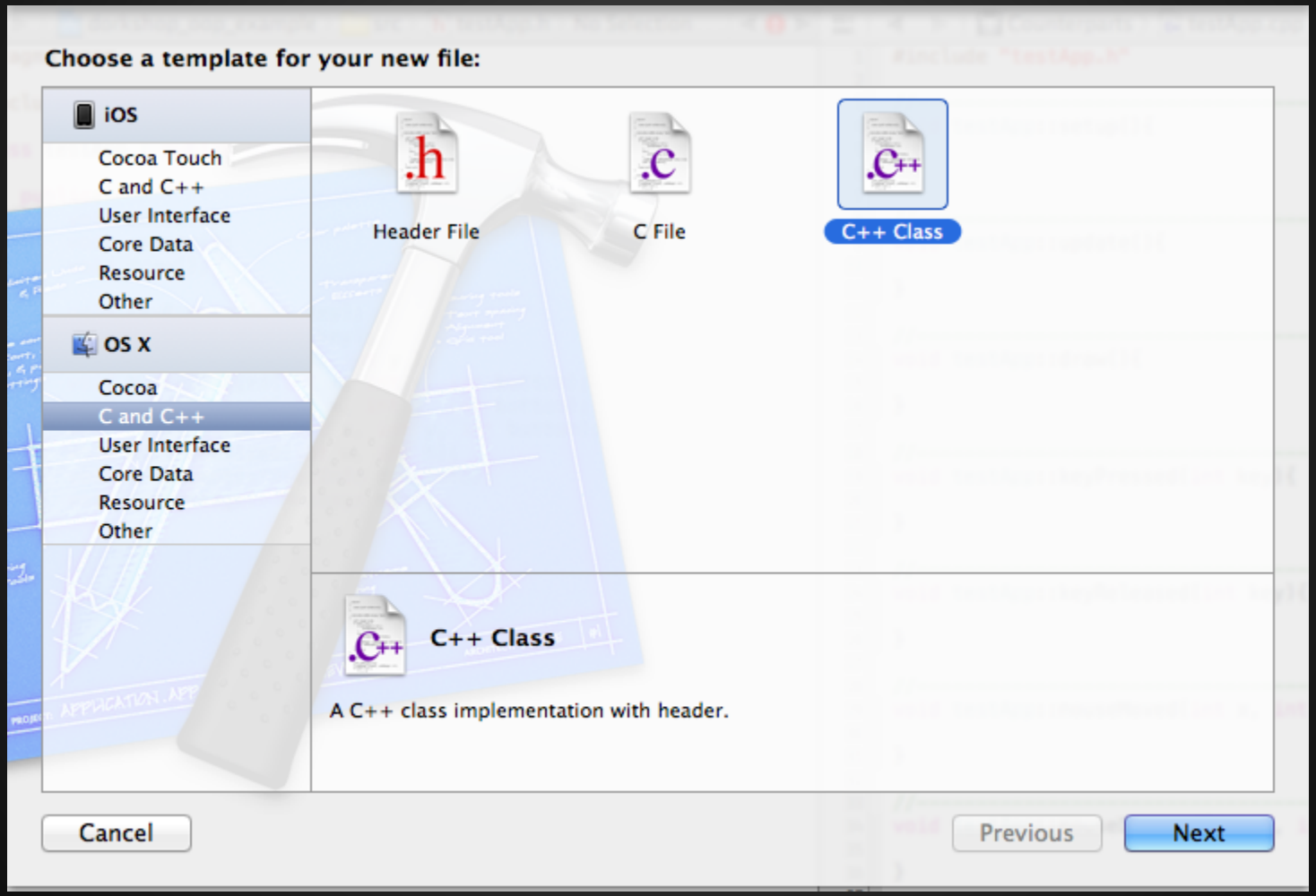
Implementation file: “AwesomeClass.cpp”

- Defines variables and methods

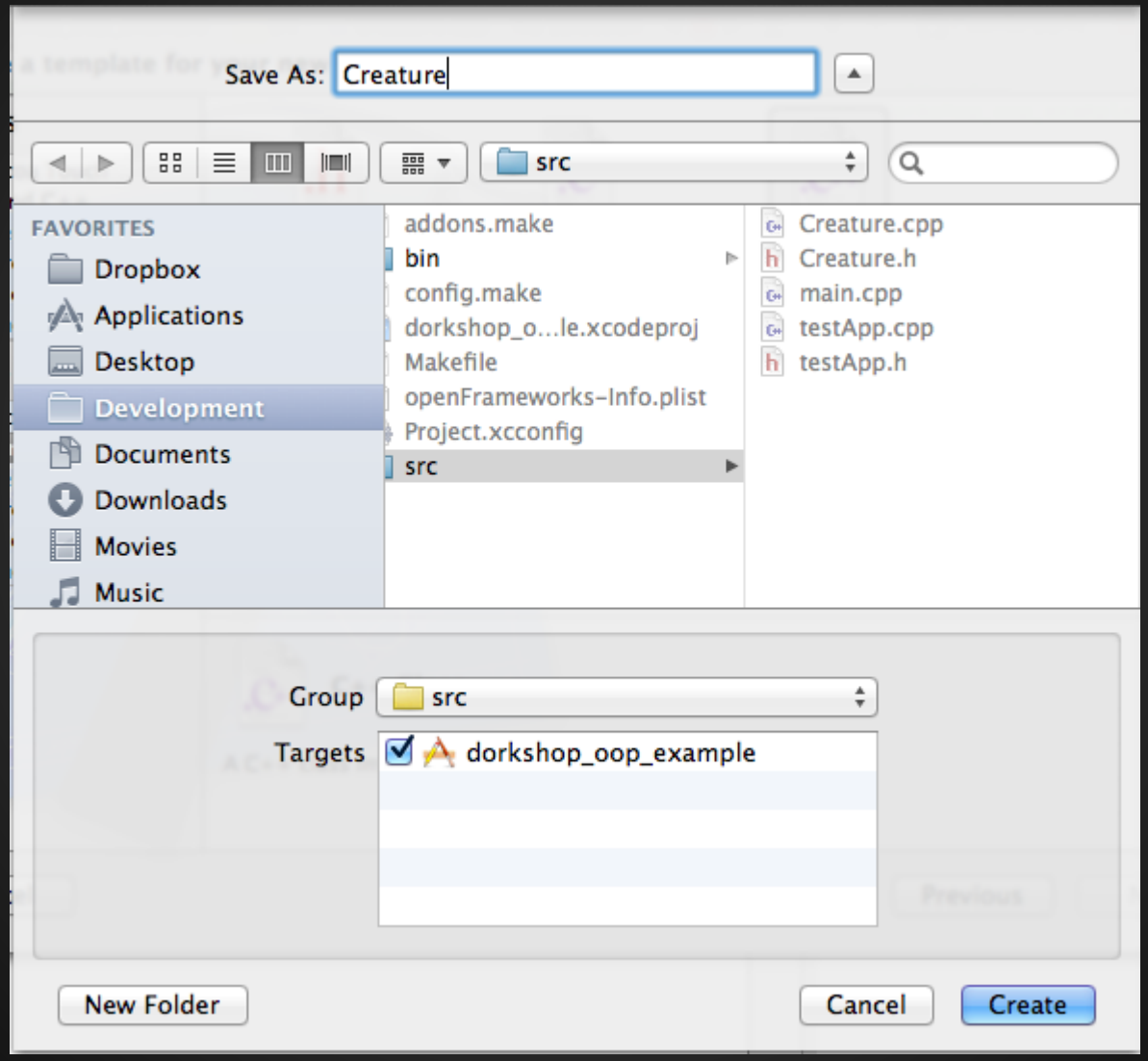
Create a new file in “src”



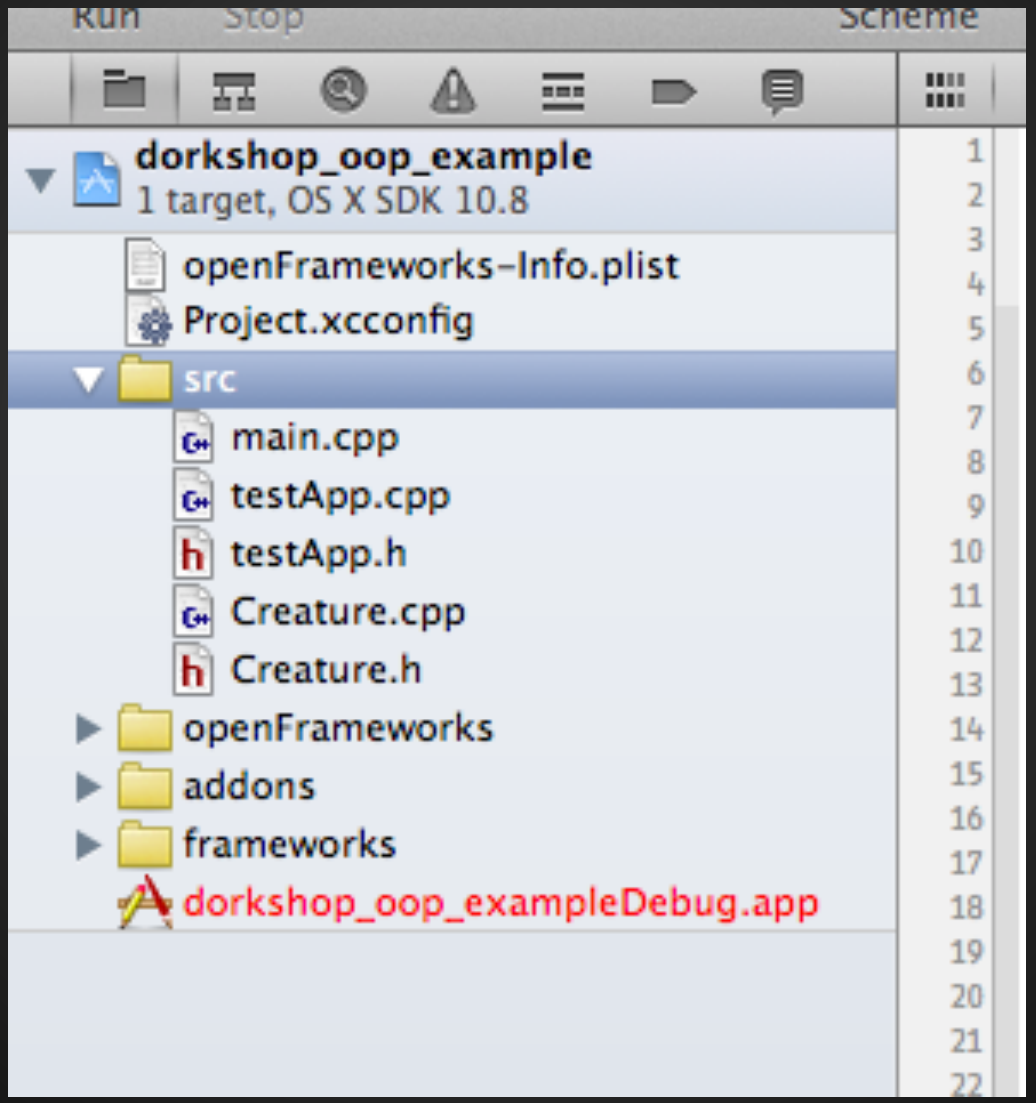
Choose “C++ Class”



Name the file (no extensions)



Like magic, XCode creates both



Link everything up...

dorkshop_oop_example › src › testApp.h › No Selection

```
1  #pragma once
2
3  #include "ofMain.h"
4  #include "Creature.h"
5
6  class testApp : public ofBaseApp{
7
8      public:
9          void setup();
10         void update();
11         void draw();
12
13         void keyPressed(int ke
14         void keyReleased(int k
15         void mouseMoved(int x,
16         void mouseDragged(int
17         void mousePressed(int
18         void mouseReleased(int
19         void windowResized(int
20         void dragEvent(ofDragI
21         void gotMessage(ofMess
22
23 };
24
```

```
//
//  Creature.h
//  dorkshop_oop_example
//
//  Created by Jennifer Presto on 9/24/13.
//
//

#pragma once

#include "ofMain.h"
```

Example code for syntax

http://www.openframeworks.cc/tutorials/first%20steps/003_ooops_object_oriented_programming.html

(just go to www.openframeworks.cc and click on "tutorials" in the navigation bar)