More on Classes (This, header files and class hierarchy)

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This

The keyword this, is used to denote a pointer that points to its own class. Take a look at the following example:

https://repl.it/E8u9/2

Line 9 reads:

```
    this->leaf_count = leaf_count;
```

Normally, you can't a parameter and a variable/field to the same name. It's ambiguous. But this tells your computer that you are specifically referencing something in your class.

Class hierarchy

- We've learned so far that classes are generalizations for real world objects, whereas objects are specific occurrences of these objects
  - Example: A class called "Lunch", and an object called "Ahmad's Lunch" referring to someone's actual, physical lunch
- Classes are like families, they have parents and children.
  - Children are similar to each other and their parents, but they can have their own characteristics as well
  - Example: A class called "Lunch", another class called "Pizza" which inherits from "Lunch", and an object called "Ahmad's Lunch" with the properties of a lunch and the *additional* properties of a pizza.
- It might help to see an example in code

Too much in one file!

- You may have noticed that putting several classes in one file can get really long and confusing. C++ allows us to create different files for different classes in our code, and use them with #include <ourfile>
- To do this, we will ned to **leave repl.it for good** and move to the real world of programming! Congrats *confetti*!

Introduction to header files

Introduction to source files

A very brief look on how compiling with several files works