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Multiple Inheritance & Mix In's

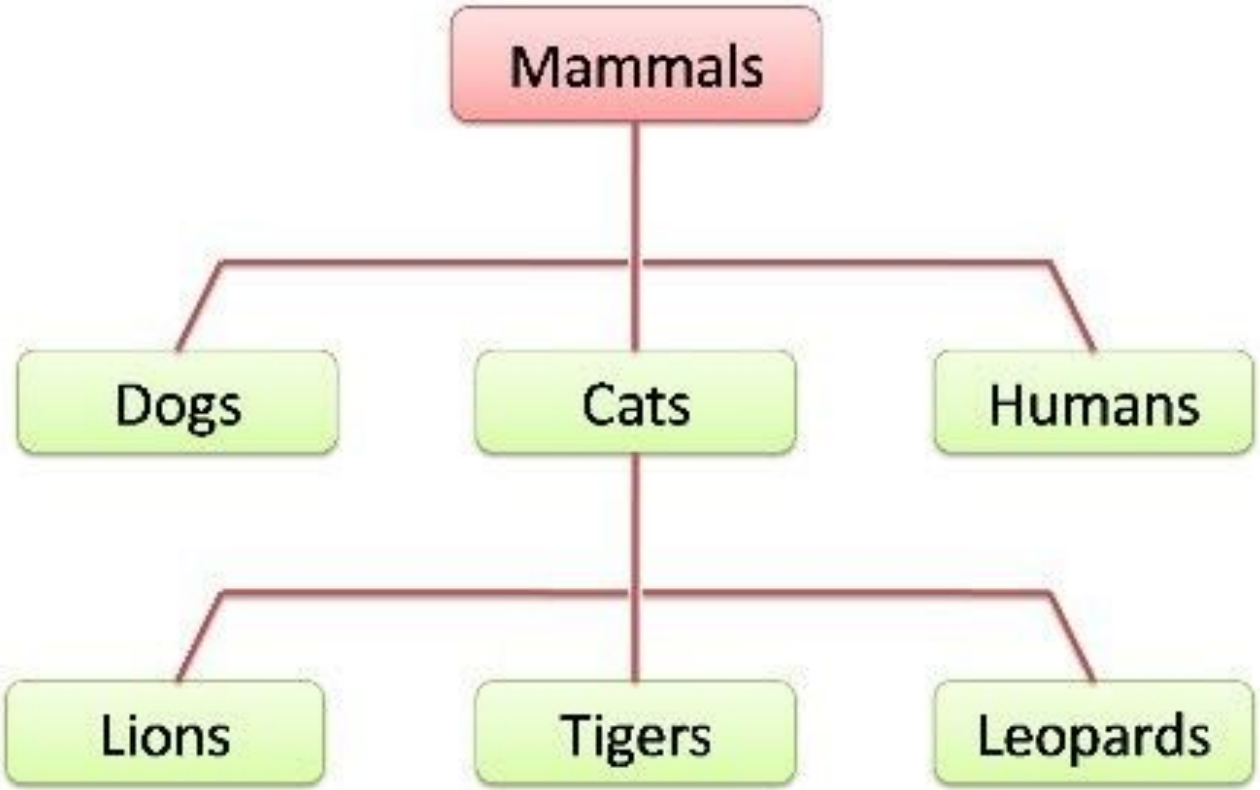
Check In

Play

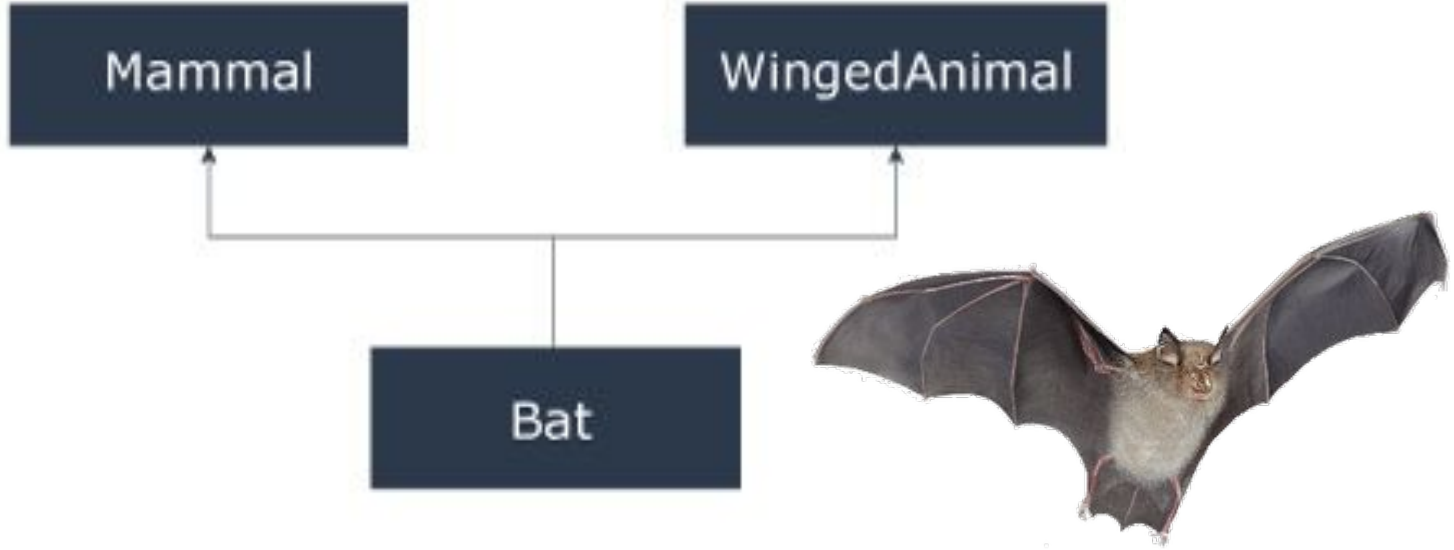
In honor of Latinx Heritage Month, we will be playing a game called Lotería.

Lotería's iconic imagery and the shared experience it fosters across people of any generation has become a source of pride and celebration for Mexican culture -- one of the MANY Latinx cultures that are celebrated during this month. Whether you play today with your *familia* or a new *amig@* around the world, we hope today's check in inspires fun, curiosity, and a healthy dose of *competencia* ;)

Inheritance



Multiple Inheritance



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Let’s look at an example

Students browse: repl.it/@JessDahmen/multipleinheritanceexample?lite=true

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Warning: Multiple Inheritance Can Get Confusing

Method Resolution Order (MRO)

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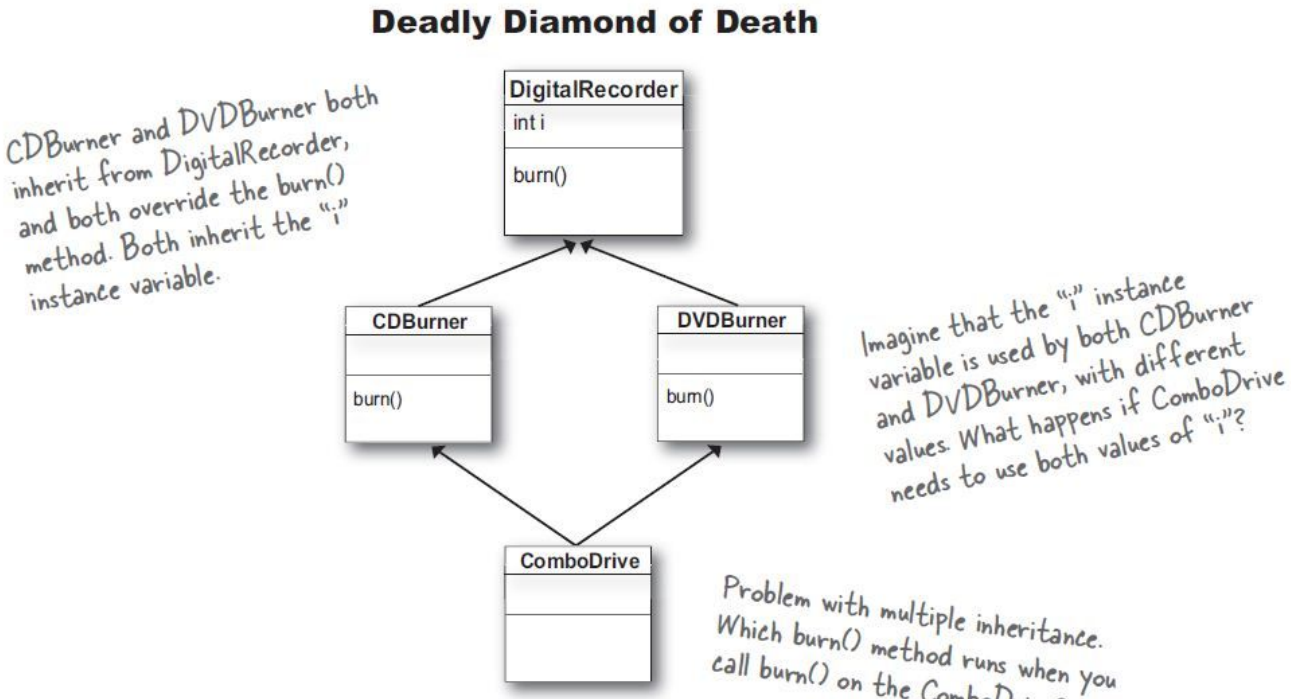
The order in which Python looks for a version of a method in a hierarchy of base classes

For simple inheritance cases MRO behaves like we would expect

But for more complex cases it can get very complicated

Check out this article if you want to learn more

Deadly Diamond of DEATH



The diamond brings doooom to us all

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Now it's your turn!

Students browse: repl.it/@JessDahmen/multipleinheritancepractice?lite=true

Mix In's

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To handle some of the ugliness that can happen with languages that enable multiple inheritance developers will often write what is called a **mix in**

A mixin just provides a single well-defined feature but doesn't really impact the hierarchy

It's similar to the idea of an abstract class as it's not really intended to be instantiated, but differs because it does provide functionality rather than containing abstract methods where functionality needs to be implemented by subclasses (it's not intended to be the same as a base class)

Multiple Inheritance

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Multiple inheritance can be difficult

Some think it's best to avoid it all together and instead rework the design to be a chain of single inheritance

This approach also has issues though the more levels of inheritance you add

Mix in's help avoid the pitfalls of complex inheritance structures by componentizing classes

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Let’s look at an example

Students browse: www.residentmar.io/2019/07/07/python-mixins.html

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Shout Outs