

Tute 10: More Classes & Inheritance

Review: Inheritance

How do you extend a class?

What is a virtual method?

What is polymorphism?

What is the difference between static and dynamic binding?

Programming Concepts: More inheritance

What is/is not inherited by a derived class?

What is multiple inheritance?

How are override/final used?

What kind of casts are available in C++? What dangers are there in using vanilla C style casts?

How do `dynamic_cast` and `typeid` work? More modern approach: use `decltype`

What is inlining?

What is operator overloading?

What is an enum? What about an enum class?

What is a virtual destructor?

Compilation: None this week

Errors: None this week

Debugging: None this week

Exercises:

Write the class definitions and member functions for the following situations:

- Meat and Vegetables are Foods.
- Herbivores and Carnivores are Animals.
- All animals can eat Food.
- Herbivores eat Vegetables, and Carnivores eat Meat.
- If a Herbivore eats Meat, or if a Carnivore eats Vegetables, they abstain().
- An Omnivore is a special case of a Herbivore and a Carnivore - it can eat both Meat and Vegetables.