

Base and Derived Classes Solutions

Base class and Derived class Example

- A Vehicle class has a max_speed member
- An Aeroplane class has a max_height member
- Aeroplane is derived from Vehicle
- Write the class definitions for a Vehicle class and an Aeroplane class
- Check that your code compiles

Constructors with arguments

- Add constructors to your class definitions
- In the constructor body, print out the type of the class
- Write a main function which creates an object of each class
- What happens when you run your code?
 - When the Vehicle object is created, the Vehicle constructor is called
 - When the Aeroplane object is created, the Vehicle constructor is called, followed by the Aeroplane constructor
- Explain the results
 - An Aeroplane object contains a Vehicle object
 - When the Aeroplane constructor is called, it uses the Vehicle constructor to initialize the Vehicle part of the object

Deriving from a Derived Class

- Write a new version of the class hierarchy in which a FighterPlane is derived from Aeroplane