

wk8_inherit_lab

Imagine you are a game developer and have been asked to develop objects for a game. It is up to you to choose the objects to develop. The only restriction is that there must be at least one base class and at least 3 derived classes (2 of which must be derived from the same base class).

For example, if you decided to create Spacecraft objects, the base class would be Spacecraft. It would contain private member variables for attributes all kinds of Spacecraft have in common. Then, you might have a derived class for Battleship, Freighter, Commandship, and Shuttle. The specifics of private member variables might be:

Spacecraft	Battleship	Freighter	Commandship	Shuttle
ID	maxDistance	cargoMaxSize	classification	maxDistance
maxSpeed	Weapon[]	cargoMaxWeight	fleet	length
minCrew		loadStyle	commType	width
maxCrew				height

Weapon would be a second class, with derived classes for Laser, Phaser, Plasma, etc.

So....

1. Choose the kind of game you want to develop.
2. Choose the classes you want to develop (**not a Spacecraft nor a Weapon**).
3. Design the base class(es) and derived classes.
4. Write a driver program to test the classes. (You're welcome to make this a real game, if you like....and if you have time.)
5. Submit all files.