Lecture 19

Chapter 12.3
Derived Class

• A derived class is based on a base class
• When we say class C is derived from class A it means that class C contains all the features of class A.
Derived Class

• For example
  – The class istream (cin is of this type) has an extraction operator `>>`
  – The class ifstream is derived from istream so it also has the extraction operator `>>`
  – But unlike ifstream, cin does not have an open function
Derived Class

• Another example
  – Motorized vehicles
    • Motorcycle
      – Scooter
      – Sports bike
    • Car
      – Convertible
  • Bus
  • Truck
Inheritance

• Derived classes are often discussed with the metaphor of inheritance and family relationships

• If ifstreams are derived from istreams (cin) then it is said that ifstreams inherit the extraction operation $>>$ from istream.
Child/Parent

- The above slide also mean that ifstreams are the children to istreams which are the parents.
What are the relationships here?

• Motorized vehicles
  – Motorcycle
    • Scooter
    • Sports bike
  – Car
    • Convertible
  – Bus
  – Truck