# Software Workshop – Week 6

* Extends: take an existing class and add more information and functionality to it
* It means that your new class has all the functionality of the “extends class” + whatever else you choose to add
* You can only extend, at most, one class
* Super-class is the class that you are extending (also known as the parent class)
* Sub-class is the class that extends another (also known as the child class)
* Sub-class inherits all the field and methods of the super-class
* Anything declared private in the super-class is not accessible (limited scope)
* You must use public methods to access field values
* If a field or method is declared private, it can only be referred to in that class
* If field/method is declared protected it can be referred to in any sub-class as well as the defining class (considered bad practice as you can’t know which sub-classes of your class will exist)
* A sub-class can override things if the method isn’t appropriate for what you want to do.
* If you want to do this then you have to create a replica of the original method with the same arguments, header etc. The order of the arguments must also be the same.
* When you write constructors for your sub-class, you should always first call the constructor of the super class
* This means that all the super-class aspects are initialized (e.g. super();)
* You can use the keyword super to explicitly call a method from the super-class you are overriding.
* e.g. Super.ping();
* Polymorphism:
  + An object of a sub-class if polymorphic
  + An instance of both the sub-class and the super-class
  + Think of it like an “is a” relation. E.g. something of type B is also of type A
* Book: CORE JAVA
* When a JFrame is made visible, it draws the JFrame and title bar then it looks to see if there is any component.
* It will only paint the last component to be added.
* It will then call the paintComponent method on the component.