ICS4U

Inheritance in Java

Inheritance in java is a mechanism in which one object acquires all the properties and behaviors of parent object.

The idea behind inheritance in java is that you can create new classes that are built upon existing classes. When you inherit from an existing class, you can reuse methods and fields (data) of parent class, and you can add new methods and fields also.

In the terminology of Java, a class which is inherited is called parent or super class and the new class is called child or subclass.

The extends keyword indicates that you are making a new class that derives from an existing class. The meaning of "extends" is to increase the functionality.

Consider the following class that was created in the previous lesson;

```
public class My2DPoint  {
  double x,y;

  // constructor
  public My2DPoint () {
    x = 1;
    y = 1;
  }

public void increaseX (double a) {
  x +=a;
  }
}
```

This class was created in the previous lesson.

See next program that uses the "extends"

```
public class My3DPoint extends My2DPoint  {
  double z;

  public void increaseY (double a) {
  y +=a;
  }
}
```

This class inherits all the fields (data) and methods of the My2DPoint class.

We have added another field (data).

Here we add another method