University of Technology, Jamaica
School of Computing and Information Technology

OOP Principles Tutorial Four - Inheritance Part One

Objective:
The objectives of this tutorial are to allow students to be able to:

- implement inheritance in an OOP language such as Java or C++
- use appropriate access specifiers for attributes of the parent and child classes
- instantiate objects of parent and child classes in main and invoke their methods

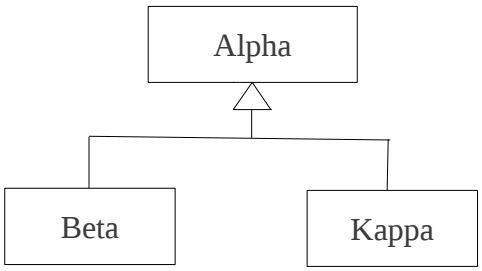
Exercise One

Consider the following classes and relationship depicted in the UML diagram below. Animal is the base class and the other classes are derived classes. 1

Alpha
- A : double - B : int
+ Alpha() + G() : void

Beta
- C : int - D : string
+ Beta(int, string, double, int) + H() : void + Show()

Kappa
- E : float - F : string
+ Kappa(float,string, double, int) + I() : void + Show() : void



a) Write code to implement each class using an object-oriented programming language of your choice (Java or C++). The Show() method should display the value of the class it is in, including inherited attributes.

b) Write a driver file to the parent class and any one of the child classes above. Show how you would create objects and invoke all their methods.

Exercise Three - Homework

Write a complete program by hand, representing all the classes and their relationships as depicted above in the UML class diagrams.