Assignment 10

Programming Languages

1. [40 pts, dynamic binding]

   Dynamic binding or late binding is the concept when the actual subroutine cannot be bound to the method symbol until the run-time is reached. Thus the compiler generates appropriate code in an object oriented program to perform dynamic binding when necessary.

   Write a program to demonstrate dynamic binding (such as using more than one class, inheritance and printing a string in the methods of the objects) in a language of your choice (Python, Java, etc.).

2. [20 pts, subtyping]

   Give an example of two classes from existing libraries (Python, Java, etc.) that are subtypes but are not inherited from one another.

3. [20 pts, inheritance]

   Give one example of a disadvantage of inheritance.

4. [20 pts, inheritance]

   What can be the primary reason about Java having all objects derived from the Object class?