Critical Thinking(page 205): questions #1 - #4, and #6.

#1 Explain the difference between a has-a and is-a relationship among classes.

A Has-a relationship is: Whenever an instance of one class is used in another class. Whereas a Is-a relationship is: Whenever one class inherits another class.

#2 If a base class has a public method go() and a derived class has a public method stop(), which methods will be available to an object of the derived class?

#3 Compare and contrast implementing an abstract method to overriding a method.

Overriding-in-java

Abstract-methods-in-java

#4 Compare and contrast an abstract class to an interface.

Abstract-class-in-java

Interfaces-in-java

#6 Use the following classes to answer the questions below:

```
Interface Wo
{
  Public int doThat();
}

Public class Bo
{
   private int x;

   public Bo(int z)
   {
      x = z;
   }

   public int doThis()
   {
      return(2);
```

```
    }

    public int doNow()
    {
       return(15);
    }

}

public class Roo extends Bo implements Wo
{
    public Roo
    {
       super(1);
    }

    public int doThis()
    {
        return(10);
    }

    public int doThat()
    {
        return(20);
    }

}
```

a) What type of method is doThat() in Wo?

b) What is Wo?

c) Why is doThat() implemented in Roo?

d) List the methods available to a Roo object.

e) How does the implementation of doThis() in Roo affect the implementation of doThis() in Bo?

f) What action does the statement super(1) in Roo perform?

g) Can the doThis() method in Bo be called from a Roo object? If so, how?

h) Can a method in Roo call the doThis() method in Bo? If so, how?