1. (2 pts) Suppose A extends B and B extends C. In the following code, will there be a compile-time error or a run-time error? Explain.

```java
B b = new B();
Object o = (Object)b;
A a = (A)o;
C c = (C)o;
```

2. (2 pts) What is printed when Question2 is executed? Explain the output.

```java
public class Question2 {  
    public class B {  
        protected int num = 2;
        public static void print() { System.out.println(“B”); }
        public boolean isPrimitiveRoot() { return(false); }
    }  
    public boolean isPrimitiveRoot() { return(true); }
    B b = new B();
    System.out.println(b.isPrimitiveRoot());
    System.out.println(b.num);
    b.print();
    System.out.println(b.isPrimitiveRoot());
    System.out.println(b.num);
}  
```

3. (2 pts) A class definition that is declared ______________ cannot be used to create an instance. A class definition must be ______________ before we can use it to create an instance.

4. (2 pts) If a class definition implements an interface, then a contract is established between the class definition and the interface. What is the class definition required to do to honor the contract, and what ability does the class definition receive by honoring the contract? (You may use the back to answer.)

5. (2 pts) Suppose we have the following declarations. Are there any syntax errors when we compile Test.java? If not, what is printed?

```java
public interface Feasible {  
    public void feaseIt(Object o);
    public boolean canBeFeased();
}  
public class Test implements Feasible {  
    public void feaseIt() { System.out.println(“We feased it”); }
    public boolean canBeFeased() { return(true); }
    public static void main(String[] args) {  
        Test test = new Test();  
        test.feaseIt();  
    }  
}  
```