1. (2 pts) Is there a problem with the following class definition? Why or why not?
   
   ```java
   public abstract class Question1 {
       public abstract void display();
       public static void main(String[] args) {
           Question1 question1 = new Question1();
       }
   }
   ```
   
   2. (2 pts) Suppose we have the following declaration. **public class A extends B implements Comparable.** What are at least four “is a” relationships that exist?

3. (2 pts) What is printed when the following code is interpreted? Why? Recall that `==` is a boolean binary operator.
   
   ```java
   public class Question3 {
       private int num;

       public Question3(int num) {
           this.num = num;
       }

       public static void main(String[] args) {
           Question3 temp1 = new Question3(1);
           Question3 temp2 = new Question3(1);

           System.out.println(temp1 == temp2);
       }
   }
   ```

4. (2 pts) A class definition in Java can list at most __________ class definitions in its extends clause, and if it does not have an extends clause it extends __________ that is found in the java.lang package.

5. (2 pts) Will there be a compile-time error when the following code is compiled? Explain.
   
   ```java
   public class Question5 {
       private int gcd;
       public Question5(int gcd) {
           this.gcd = gcd;
       }

       public int gcd() {
           return gcd;
       }

       public boolean equals(Object o) {
           return gcd() == o.gcd();
       }

       public static void main(String[] args) {
           Question5 temp1 = new Question5(1);
           System.out.println(temp1.equals("Hello"));
       }
   }
   ```