1. Find the errors, if any, in the following program:

```java
class C {
    public int x;
    public int y;
    public double a;
}
class Error {
    public static void main(String args[]) {
        C c1, c2, c3;
        c1 = new C();
        c1.x = 2;
        c1.y = c2.x;
        c3 = c1;
        c2 = new C();
        c2.y = c1.a;
        c1.y = c2.x;
    }
}
```

2. Determine the output of the following program:

```java
class Output {
    public static void main(String args[]) {
        C c1, c2, c3;
        c1 = new C();
        c2 = new C();
        c3 = new C();
        c1.x = 1;
        c1.y = 3;
        c1.a = 5.0;
        c2.x = c1.x;
        c2.y = c1.y
    }
}
```
3. (a) Implement the following class that represents rectangles.

   | Rectangle |
   | + height: float |
   | + width: float |

(b) Write a program that:
   • creates a rectangle and reads its attributes from the keyboard.
   • creates a rectangle whose width and height are the double of respectively
     the height and width of the first rectangle.
   • creates a rectangle bigger than the two previous rectangles.

(c) Write a program where three different variables reference the same object of the
    class Rectangle.

(d) We would like to have upper limits for the height and width of the rectangles.
    Add to the class Rectangle the appropriate attributes that may be used to store
    these upper limits.