1. Suppose you are designing an object-oriented application that is supposed to simulate a library. Draw a class diagram (with low coupling) that indicates how you would choose classes. Recall that an arrow represents a “has a” or “has some” relationship (ie a CashRegister has some Coin objects). You should have at least six classes.

2. Circle three errors in the following code and explain why they are errors.

```java
int i = 0;
for(int i = 0; i < 54; i++) {
    double q = i * Math.PI;
    if (q < Math.E) {
        double p = q * i;
    }
    q *= p;
}
System.out.println("q: " + q);
```

3. Declare the following:

   (a) a static field of type int named numBoxes that is initialized to 0;

   (b) a static method named addBoxes that takes in an int and adds that number to the static field numBoxes.