

FIRST QUIZ

You have 15 minutes from the start of class to complete this quiz. Read the questions with care; work with deliberate speed. Don't give us more than we ask for. The usual instructions apply. Good luck!

Problem 1 (12 points)

Suppose you manage a coffee shop and want to keep track of customers' orders automatically. Write a complete definition of the class `Order`; it should include each of the following components:

- Fields for the customer's name, the drink the customer ordered, and the price of that drink (The first two are strings; the last is a number.)
- A constructor method that fills all the fields with the method's arguments
- Accessor (getter) functions for each of the fields
- A `toString` method that returns the order information in this form (assuming that "grande nonfat latte" was the drink Joe ordered, and that it cost \$3.50):

`A grande nonfat latte for Joe. That's $3.50, please.`

(Aside from the dollar sign, you don't have to do any special formatting of the price.)

We have provided a copy of the `restaurants` program as a reference.

Problem 2 (11 points)

Your coffee shop ordering system also saves all the orders in a class called `OrderList`. Write the method `printCheapOrders` as described below. Assume the `OrderList` class has a field called `theOrders` that contains an `ArrayList` of all the orders.

```
// Take a price as an argument and print out each order whose price is
// at or below the argument.
public void printCheapOrders (double cutoffPrice) {
```

```
}
```

Problem 3 (2 points)

The garbage collector in Java consumes machine cycles; that is, from time to time as your program is running, the garbage collector starts up and recycles storage that's no longer in use. If the user is performing a highly interactive task at the same time, he or she might notice a slowdown when the garbage collector is at work.

So why does Java do automatic garbage collection? What's the advantage of imposing these occasional slowdowns? Answer in one or two brief English sentences, but don't just say "It's more convenient."