
Project 4

Kevin Nilson, <http://www.smccd.net/accounts/nilsonk/>

CS 381 Project 4, Java Programming I, Fall 06

1. Assignment

Due - September 27

Write a simple Java program that performs like a more advanced cash register.

- Your Java Classes should use the package `edu.smccd.cis381.fall2006.project4`
- Your program must be compatible with `project4-build.xml`

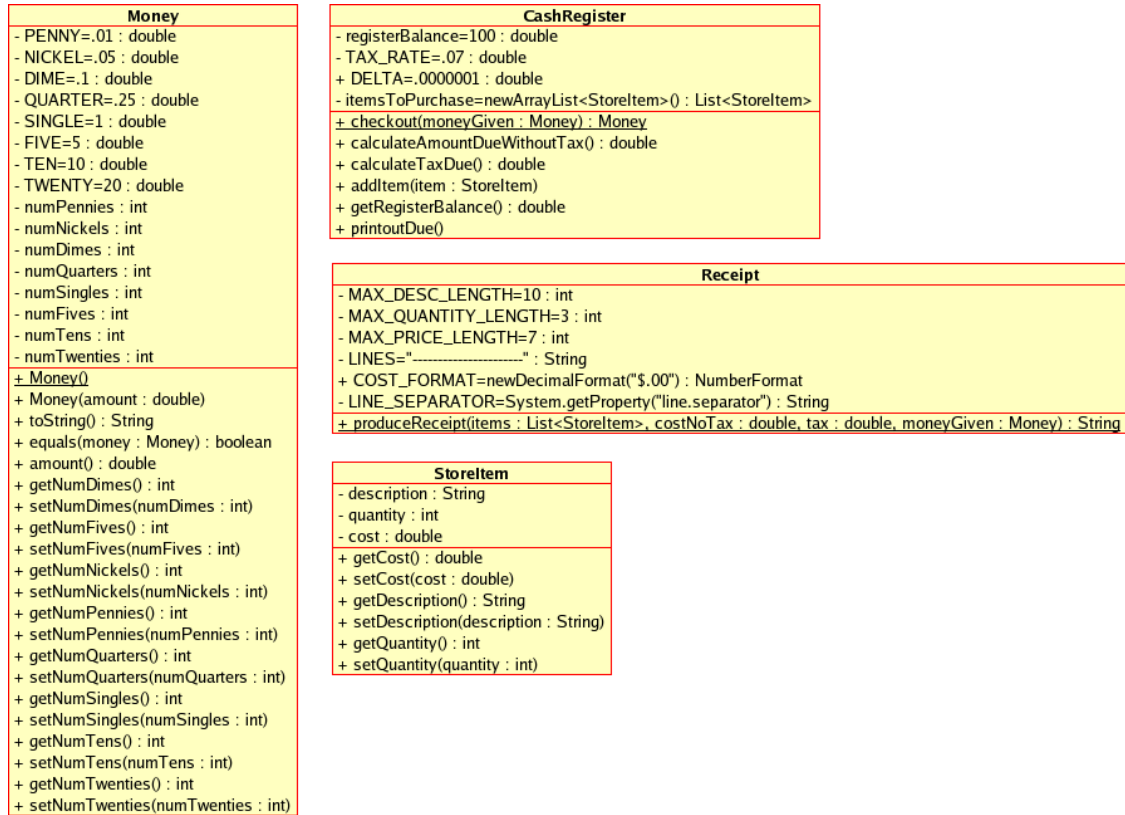
I expect 5 classes for this assignment

- CashRegister
- Money
- StoreItem
- Receipt
- CashRegisterTester

Please review "How to Turn in Assignments" for information about how to submit and other requirements.

2. Description of Classes

Figure 1. UML



Class Diagram for Project 4

3. CashRegisterTester

CashRegisterTester should do the following

1. Create one or more CashRegisters.
2. Add some items.
3. Print the amount due to the customer.
4. Checkout, which prints a receipt.
5. Print change given.
6. Print the balance of the cash register before exiting.

```
CashRegister cashRegister=new CashRegister();

StoreItem item = new StoreItem();
item.setCost(1);
item.setQuantity(10);
```

```
item.setDescription("milk");
cashRegister.addItem(item);

item = new StoreItem();
item.setCost(2.20);
item.setQuantity(5);
item.setDescription("bread");
cashRegister.addItem(item);

item = new StoreItem();
item.setCost(10.23);
item.setQuantity(10);
item.setDescription("Jiffy Peanut Butter");
cashRegister.addItem(item);

cashRegister.printoutDue();

Money money = new Money();
money.setNumTwenties(10);

Money change = cashRegister.checkout(money);
System.out.println();
System.out.println("Change given is:");
System.out.println(change);
```

4. CashRegister

- return null Change if not sufficient funds given to make purchase
- May make change at any time.
- No refunds are given, only purchases may be made.
- The register only keeps track of the total balance, it does not have any idea what bills and coins it has inside.
- Checkout should print the receipt to the console.

5. Money

- Don't forget 5 singles is equal to a five dollar bill.
- When giving change please use as much of the highest value currency as possible. When giving change \$27.33 give: 1 twenty, 1 five, 2 singles, 1 quarter, 1 nickle, and 3 pennies.
- When customers pay they may use any distribution of currency they wish.

6. Receipt

- Format the receipt last. The format of the receipt String will be graded, but with little weight. Get everything else working first.
- Try to make your receipt look like mine. You may use a different format if it looks better than mine.

```
Item Cost = $123.30
Tax = $8.63
Total Due = $131.93

-----
| 10 milk          $10.00|
|  5 bread         $11.00|
| 10 Jiffy Pean $102.30|
|-----|
| Item Cost:      |
| $123.30         |
|-----|
| Tax:            |
| $8.63           |
|-----|
| Amount Due:     |
| $131.93         |
|-----|
| Amount Given:   |
| $200.00         |
|-----|
| Change:         |
| $68.07          |
|-----|

Change given is:
pennies=2 nickels=1 dimes=0 quarters=0 singles=3 fives=1 tens=0 twenties=3 amount=68.07
```

7. StoreItem

- Items the customer wants to purchase.
- You may want to add a toString method.