Coffee

Topics: inheritance, overriding, super

Program Description

1. Suppose the price of generic-brand coffee is $5 per cup. Some brand might have a different price.

2. Write a class named `Coffee`, which contains the following variables and methods
   - `String brand`: the coffee's brand
   - `double price`: the coffee's price per cup
   - a default constructor (no input)
   - another constructor which takes values of brand and price
   - `get... ()`
   - `protected void printBill (int numCup)`: takes the number of cups and prints a bill.

3. A premium-brand coffee Starbox charges $10 per cup. Customers may pay 25% extra to upsize their coffee.

4. Write `Coffee`'s subclass named `Starbox`, which contains the following variables and methods
   - `boolean upSize`
   - a constructor which takes true or false for `upsize`
   - override `printBill (int numCup)` to print a bill with some decoration. This method should call `printBill ()` in its superclass. If coffee is ordered upsized, it should also say in the bill.

5. More notes on design and implementation
   - For each of the variables and methods above, design whether it should be `private`, `public`, `protected`, or default. There may be more than one correct answers for some.
   - Besides variables/methods specified above, you may have additional ones as necessary.

Testing

- TestCoffee.java is provided.
- Your program should be properly commented
- Your code must yield exactly the same result as the example output shown below. commented

- Your may be tested with a different (harder) test examples.

Output

```
generic: 3 x $5.0 = $15.0

Amazon: 4 x $6.5 = $26.0

~*~ Good Morning ~*~
Starbox: 3 x $10.0 = $30.0
~*~ Thank you ~*~

~*~ Good Morning ~*~
UPSIZE
Starbox: 5 x $12.5 = $62.5
~*~ Thank you ~*~
```