

CS 125 Spring 2009 Exam 1 Review

Determine the output for the following operations:

$7 / 4$ =
 $1 / 2.0$ =
 $1.0 / 2$ =
 $-7 / 2$ =

Evaluate the following statements & determine what the output would be:

```
int x = 10;
int y = 0;
int z = 4;
x++;
z = z + x;
x++;
y--;
z = z + y;
System.out.println(x);
System.out.println(y);
System.out.println(z);
```

Create a class called **BankAccount**. It will need an instance field for its balance & another for an interest rate. It should have two constructors, one that sets the initial balance & interest rate to zero & another that sets them based on parameters. It should have the following methods:

getBalance - returns the current balance
deposit - add a specified amount to the balance
withdraw - removes a specified amount from the balance
setInterest - used to change the interest rate to a new amount
getInterest - returns the current interest rate
applyInterest - calculates the interest earned & adds it to the balance

Follow proper naming, coding and documenting conventions. Try to do write the class out on paper first without referring to other code files or the compiler for help.

Create a class called **BankAccountTester**. It should have a main method that creates a new **BankAccount** (from above), set the interest rate to 10%, deposit 100 into the account, apply the interest, withdraw 20 & then print out the final balance.

Follow proper naming, coding and documenting conventions. Try to do write the class out on paper first without referring to other code files or the compiler for help.

What is the significance of the **main** method? Why do we need one?

What is the primary difference between an **int** and a **double**?

What are instance fields & why are they usually **private**?

Define (with regards to programming) **abstraction**?

What is the relationship between a **class** & an **object** in Java?