CS 201 Review

1) class vs. object

```java
BankAccount acct = new BankAccount("12345");
```

(type of object)

2) global variables:

```java
In Driver:

public class Driver {

    static Scanner scan = System.in; // global

    public static void main(...) {

        String s = scan.nextLine();

        //

        public static doSomething() {

            int x = scan.nextInt();

            //
        }
    }
}
```
Global variables in non-Driver (Object's class):

```java
public class Hangman {
    int numwords = 10; // global (not static)
    String[] words; // global

    public void setWords() {
        words = new String[numwords];
    }
}
```

3 method calls from within same class:

ex: BankAccount: Driver:
    deposit(100); getAverage(arr);

from Driver to Object's class:

    game.getWords();
private vs. public (applies to both variables + methods)

private - accessible from only within the same class.

ex: BankAccount:

public class BankAccount {

    private String acctNum; //directly accessible from
    // only this class.

    private boolean checkValid() // accessible from only
    // this class (no
    // outside class can
    // access this method

    For an outside (e.g. Driver) to access acctNum, need
    setter/getter in BankAccount (see 5)

    No outside class can access checkValid()
5. Setters / Getters

```java
public class BankAccount {
    private String acctNum;

    // Setter
    public void setAcctNum(String n) {
        acctNum = n;
    }

    // Getter
    public String getAcctNum() {
        return acctNum;
    }
}
```

Then in Driver:

```java
public static void main(String[] args) {
    BankAccount acct = new BankAccount();
    acct.setAcctNum("12345");
    System.out.println(acct.getAcctNum());
}
```
(6) IOException - "throws" clause necessary after method header of any method that performs input/output either directly or through method call.

//indirectly performs I/O by calling readFile()
public ... main(...) throws IOException
{
    readFile(...);
}

//directly performs I/O
public void readFile() throws IOException
{
    ...
}