CS133 Midterm Review Session

Terms to know:

- instance variable
- delimiter
- helper method
- Stepwise refinement
- class
- object
- method
- method call (invokes)
- parameters
- primitive types
- overloading
- reference
- encapsulation

Short Answer Questions:

1) Why is knowing the data type important? What does it determine?

2) How do we compare primitive types of variables? Objects? Why is there a difference?

3) What do we mean by the term “good variable names”? Why do we use good variable names?

Coding Questions

1) Write a program that asks the user for a word and tells the user how many vowels are present in the word.

2) Write a game where a variable is set to a secret code and the user has 5 guesses to try and break the code. Output the number of guesses the user has remaining and appropriate incorrect/correct messages.

3) Write a program that computes the average grade. The user should be asked how many grades they wish to average.

4) Implement the following class using the comments given.

```
/**Demonstration class: Balloon
 * This class models an inflatable party balloon
 * @author Josh Hoey
 * edit by Adam Lamont
 */

public class Balloon
{

  // Instance Variables
  private boolean inflated;
  private String gas;
  private String colour;



  /* Constructs a deflated balloon of the specified colour
   * @param colour the colour of the balloon
   */
  public Balloon(String colour)
  {

  }


  /* Check to see if the balloon is inflated
   * @return true if the balloon is inflated
   */
  public boolean isInflated()
  {

  }


  /* Get what the balloon is inflated with
   * @return the gas held in the balloon
   */
  public String getGas()
  {

  }


  /* Gets the colour of the balloon.
   * @return the colour of the balloon
   */
  public String getColour()
  {

  }
```

```
/*  Sets which gas to fill the balloon
   * @param newGas the gas to fill the balloon
   */
  public void setGas(String newGas)
  {

  }


  /* Inflate the balloon
   */
  public void inflate()
  {

  }

  /* Deflates the baloon
   */
  public void deflate()
  {

  }


  /* String representation of the balloon
   * @return the properties of the balloon
   * i.e. A red deflated balloon.
   *      A blue inflated balloon filled with helium.
   */
  public String toString()
  {
  }
}
```