CS250 Assignment Five

Tic-Tac-Toe Revisited

Date Assigned: Monday, April 2, 2007

Date Due: Friday, April 13, 2007

Points: 40

For this assignment you are to use the principles of object oriented programming to modify the Tic-Tac-Toe game that you created for assignment 2. However, instead of playing two human players against each other, your program should support playing a human player against a computer player.

I don't care how smart your program is but it must analyze the board such that: 1) if a winning move exists, then take it or 2) if a block of an opponent's move exists, then take it. Otherwise, the computer would make a random move.

You must display the game board in the following format:

```
            COLUMN
          1    2    3
ROW      ---  ---  ---
 1     |    |    |    |
         ---  ---  ---
 2     |    |    |    |
         ---  ---  ---
 3     |    |    |    |
         ---  ---  ---
```

Both the human player and the computer player must be given names, which are inputted by the user.

You must use at least three classes where at least one class inherits from another class in a meaningful way. Not using inheritance in a meaningful way will result in a *significant* deduction of points. I would advise you to design your classes before you write any code. I would be happy to look at your designs before you begin coding. Think about exactly what classes, data members, member functions, and relationships you will have between your classes. You should consider using both composition and inheritance in your classes. You should also consider in detail the functionality of each function of the class.

Other details

- Test your program thouroughly. I will not be substituting any driver for this program.

- You must follow the coding standards.

How to submit

- Submit a hard copy of the code by 9am on the day the assignment is due. Your code must be stapled together and printed in color.

- Name your project "05PUNETTicTacToe", substituting PUNET with your PU Net ID, and place the complete project folder in the CS250 drop folder on Turing by 9am on the day the assignment is due.

Goals

1. Continue implementing a program using OOP techniques.

2. Code and test your program one method at a time .

3. Learn to use inheritance in a coding a solution to the above problem.

4. Do basic error checking.

5. Code for reusability