Project Assignment - worth 60% of final marks for subject.

To Do: Write a version of the Mastermind Logic Game

Mastermind is a game where the object is to guess the order of four prearranged pegs that are generated randomly by the computer. The four colours may be repeated and there may be blank spots in the pattern as well. The colours are drawn from the rainbow - Red, Orange, Yellow, Green, Blue, Indigo and Violet. The player has to guess the order of the pegs. Only a winning guess will be confirmed by the program. In all other cases a combination of black and white pegs will be used to give feedback in the following way:

- a white peg indicates a correct colour in the wrong position
- a black peg indicates a correct colour in the correct position

So if the user guesses all of the colours correctly, but has no peg correctly placed, then the feedback is four white pegs. If no colours are correct, then no pegs are awarded for that guess.

The player should be able to choose between

- Easy – 4 colours with no repeats or blank spaces
- Medium – 4 colours with repeats, but no blank spaces
- Hard levels – 4 colours with repeats and blanks spaces as options

The player should also be able to configure the number of guesses available up to a max of 15.

The code submitted must be working **before** any marks will be given. At this stage, marks awarded for:

- 40% - Correctly structured game logic with well thought out functions to do the work.
- 20% - A game that plays well and is suitably random in the patterns it generates.
- 20% - Storage of user data like high scores, best round, % wins and losses.
- 10% - Well structured and working code.
- 10% - A good error handling strategy implemented.

The game is due to be handed in on December 15th, 2014. You should put the entire solution folder (less any executables) into a zip file and upload this to the folder provided by email later. You should include a small readme.txt file with any necessary instructions and a description of extra features or well-researched programming that you included.
Be ready to explain your code to if required. Research is fine, plagiarism is not.