Some pointers to help with the coursework

Report - Some things that you can discuss -

- The language used (and why you chose it); What libraries you have used.
- How you implemented it – e.g. OO approach with an MLP class and what methods it has, how the data are stored/structured, etc.
- The MLP algorithm – what additions did you make – e.g. momentum, annealing, bold driver. Did you try different transfer functions? Alternative training algorithms – e.g. conjugate gradients?
- Are there limits on your code (e.g. have things been hard-coded or can it create any MLP with any number of inputs, hidden layers, outputs, etc).
- I will also be looking at the code to see that is well structured, well commented, and decent variable names have been used.
- I don't mind how/where you process the data set - i.e. inside your program or externally (e.g. in Excel). You will document what you did in the report. Cover how you explored the data, cleansed the data, how you split the data into data sets, standardised the data, identified suitable predictors, etc. When you have cleansed your data, you should still have well over 90% left to work with.

The code

- Avoid hard-coding things. In other words, don't write the program for the given data set. It should be easily modifiable for other data sets, different numbers of inputs, different numbers of hidden nodes, etc.
- I need to be able to read (with my eyes!) your code. So please submit it as a listing embedded in your report (e.g. as an appendix), or a separate text file or separate pdf (you can submit a zip file with all these in if you wish), so I can actually look at it.
- I WILL NOT be running the code - so do not submit it as a file created from your IDE (as I may not have the same IDE you have so might not be able to open it). I simply want to see your program listing with the backpropagation algorithm highlighted (along with any improvements) - to see that it has been implemented correctly. The way I will see that your program works – is seeing all the ANNs you produce and evaluated.
- This means I don't care about things like the user interface, how your program stores results, etc. You are using your program to evaluate how good an MLP is at solving problems - so the focus is the MLPs you produce. I don't need a user guide submitting or a discussion of HCI etc.
- Make sure you highlight (e.g. with lots of comments) the actual backpropagation algorithm (and other enhancements) in your code so I can find it easily when marking. I need to see the algorithm(s) in your code to mark it (them).

Report length

As a guide, I looked at some submissions from last year to see what typical marks were based on the report submitted:

- 42%: 800 words overall (excluding code); 1 graph; no tables.
- 90%: 4,000 words overall (excluding code); 12 graphs; 3 tables.

But – this is a guide. The marks clearly depend on the 'quality' of the graphs/tables, the depth of the discussion, and the functionality of the ANN(s) implemented.