Week 11 Tutorial Activity

For this week, the tutorials will be some exposure to NoSQL databases and a brief conclusion of this Unit's learning.

- Activity 1: NoSQL Examples
- Activity 2: Considering Prediction Model

Activity 1: NoSQL Examples

Fill in the following table. A similar table was presented in Lecture 10 (`FIT1043-Week10-IntroDB.pdf`), but without examples. There are some notes on the side of the table presented in Lecture 10, to be used as a starting point where you can search for further information. What is important is that you have an idea of the suitability of the different types of databases for the various business domains, as well as provide an explanation on them.

In the data description field, it should not be more than 4 sentences and it should justify why that particular form of NoSQL is used in the stated business domain. Domains could be a part of the government, science, or industry, and be somewhat specific such as "e-commerce" or "hospital EHR".

Type	Domain/Business	Data description
key-value store		
key-value cache		
Document DB		
tabular key-value (Column store)		
Graph Database		

During the tutorials, you can ask your tutors to create breakout rooms (if the session is large) in order for you to discuss the individual types and revert back with your findings. You can present your findings in the main room. Share your results with other students and the tutor and discuss the appropriateness of the answers.

Activity 2: Considering Prediction Models

Amazon started as an online book store and over the years it has evolved to be an online retailer for an assortment of products. Suppose that you are now tasked to review and redevelop the underlying marketing system on Amazon's book site.

Consider the following web page:

https://www.amazon.com/Recommender-Systems-Textbook-Charu-Aggarwal/dp/3319296574

For the purposes of marketing to the user:

- What known information might Amazon be using about them (the user)?
- What significant information or actions are available to the user (other than simply clicking on a link to another page)? You will need to scroll down the page to review them.
- What potential value can Amazon get, both immediate and a few steps out (i.e., book purchase) might Amazon get?

Some other highlights for consideration:

- What can you say, generally, about the kind of learning that is going on underneath? (The title of the book in the link above is the hint).
- Where do you think they are using prediction models? Looking at the page, it appears as if the page is not customised to the user. What about the home page for books: http://www.amazon.com/b/ref=txtb_surl_textbooks/?node=465600. Is this personalised?
- Could market segmentation (clustering or maybe classification) be used? What sorts of information should they store about the user in order to improve their prediction models.

For the curious, you can read more about it here and also for those looking at a brief summary of current research direction in this, you can read this article.