## **Learning Guide Unit 1**

### **Learning Journal**

Learning Journal

The Learning Journal is a tool for self-reflection on the learning process. In addition to completing

directed tasks, you should use the Learning Journal to document your activities, record problems you

may have encountered and to draft answers for Discussion Forums and Assignments. The Learning

Journal should be updated regularly (on a weekly basis), as the learning journals will be assessed by your

instructor as part of your Final Grade.

Your learning journal entry must be a reflective statement that considers the following questions:

1. Describe what you did. This does not mean that you copy and paste from what you have posted or the assignments you have prepared. You need to describe what you did and how you did it.

2. Describe your reactions to what you did

3. Describe any feedback you received or any specific interactions you had. Discuss how they were helpful

4. Describe your feelings and attitudes

5. Describe what you learned

Another set of questions to consider in your learning journal statement include:

1. What surprised me or caused me to wonder?

2. What happened that felt particularly challenging? Why was it challenging to me?

3. What skills and knowledge do I recognize that I am gaining?

4. What am I realizing about myself as a learner?

5. In what ways am I able to apply the ideas and concepts gained to my own experience?

Finally, describe one important thing that you are thinking about in relation to the activity.

Your Learning Journal should be a minimum of 500 words.

**This week I began my journey to learning about databases. This started with Chapter 1 of the Fundamentals open source textbook. The introduction chapter was very informative. It was interesting to learn about the different terminologies for databases, and how complex they can be. I know I take them for granted, given that I work with them almost every day, but rarely see the back end complexity. So this course will give me good perspective I think, even if I don’t plan to have a career that specifically involves database programming.**

**It was also quite surprising to see how many different types of informational models exist. Unfortunately I am not sure I totally understand the difference between the various types. Hierarchical and Network are very straightforward, however from there it gets quite abstract, and the text diagrams aren’t quite as useful. I intend to seek out further videos and explanations for how the relational database works if Chapter 2 does not make it more clear for me...**

**After beginning chapter 2, I get the strong feeling that we are going to be building up to creating our very own database from scratch! That is exciting to me. I also a bit anxious as I have very limited experience with SQL ( did attend a one day workshop where we used SQLlite).**

**Some very important terms were learned in this chapter:**

1. *Attribute*: a characteristic or feature of the data. Eg. sex is an attribute of a human being. *Male* or *female* (or *X* for any other sex/gender) would be examples of values for that domain.
2. *Domain:* The set of all possible values for an attribute. A ‘pool of values’[(Sharma et al. 2010)](https://paperpile.com/c/2vyIrd/BHYt). Two attributes or more can have their values come from the same domain, which means operations between those attributes are possible. Eg. if the University is an attribute that describes Universities throughout Canada, then the domain of University would be the set of all Universities (eg. UofA, UofS, UBC, et al.).
3. *Relation:* an abstract but important term refers to what overall encompasses the dataset. It consists of a heading and a body.
4. *Heading:* heading is essentially a collection of all the attributes that make of the dataset. If your data forms a table, it is the top row or header which contains the ‘titles’ of each column of data. Eg. in the tuple example below, the Heading would be: University, Number of Students, Province, TuitionCost.
5. *Body:* The body is the entire collection of tuples that make up the dataset, or in layman terms and using the table analogy, the set of all rows in the table underneath the top row, at one point in time (as more rows can continue to be taken away or added). In the university example, we would have a tuple for each school, all of these together form the ‘body’.
6. *Relation degree:* the number of attributes total is the relation degree. In the example, we have four or a tertiary relation.
7. Cardinality: the number of tuples of the relation. In the example, if we had say 12 schools total, there would ultimately be 12 rows of data and 12 tuples, therefore a cardinality of 12.
8. *Tuple:* an ordered set of values. Also termed a ‘row’ in a data table. For example, If we have a set of attributes (University, Number of Students, Province, TuitionCost), a tuple example would be: UofA, 20000,Alberta,5800.

**Reference:**

[(Sharma et al. 2010)](https://paperpile.com/c/2vyIrd/BHYt)

[**Sharma, Neeraj, Liviu Perniu, Raul F. Chong, Abhishek Iyer, Chaitali Nandan, Adi-Cristina Mitea, Mallarswami Nonvinkere, and Mirela Danubianu. 2010. “Database Fundamentals.” *IBM Canada*, 96–101.**](http://paperpile.com/b/2vyIrd/BHYt)