**Assignment 1: Introduction**

**1. List four significant differences between a file-processing system and a DBMS.**

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| **FILE SYSTEM** | **DBMS** |
| Used to manage and organise the files stored in the hard disk of the computer | A software to store and retrieve the user’s data |
| Redundant data is present | No presence of redundant data |
| Query processing is not so efficient | Query processing is efficient |
| Data consistency is low | Due to the process of normalisation, the data consistency is high |

**2. Assume that two students are trying to register for a course in which there is only one open seat. What component of a database system prevents both students from being given that last seat?**

**Transaction Isolation**

* The **Transaction Isolation** component of the database prevents both students from being given the last seat of the course.
* In database management system always ensures the data that enters into the database must maintain ***accuracy*** and ***consistency*** of the database system.
* Therefore, when both students register for the last seat of the course, there are two probabilities presents such as:
  + *Student 1 will register for the last seat.*
  + *Student 2 will register for the last seat.*
* But there is no chance for the probability of
  + *Both students get the last seat of the course.*
  + *Not a single student gets last the seat of the course.*
* Above probabilities ensure that only one of the students would register for the last seat of the course.
* The **Transaction Isolation** concept makes this possible. It ensures that only one student's registration request is fulfilled and database maintains accuracy and consistency.
* Hence, when one student registers for the last seat of the course, then the next student would not register for the same seat or any other seat, because registration for the last seat has already been completed.

**3. Describe at least three tables that might be used to store information in a socialnetworking system such as Facebook.**

**a**) A users table containing users, with attributes such as account name, real name, age, gender, location, and other profile information

**b.** A content table containing user provided content, such as text and

images, associated with the user who uploaded the content.

**c**. A friends table recording for each user which other users are connected to that user. The kind of connection may also be recorded

in this table.

**d**. A permissionstable, recording which category of friends are allowed

to view which content uploaded by a user. For example, a user may

share some photos with family but not with all friends.