**Databases Introduction**

**SDLC (Systems development life cycle)**

SDLC is the life cycle that a system or piece of software will go through from the initial user requirements up until the final product is shipped and will even then continue during maintenance of that system or software. The life cycle consists of various steps including: Planning, Implementation, Testing, Documentation, Deployment and maintenance and Maintaining. However there are various different types of SDLC's that follow different models e.g. Waterfall model, V-Shaped model and Incremental model. Each one has a different way of planning, testing and getting feedback during system development.

<https://www.techopedia.com/definition/22193/software-development-life-cycle-sdlc>

**Information system**

An information system is a system that consists of various other systems and people within an organisation that are involved in the breaking down/spreading of information. There are various types of Information systems used for different purposes i.e. Operations support systems, management information systems, decision support systems etc. Information systems aren't just made up of computers and software but are made of the people that operate them as well as without them the system wouldn't function. Information systems have all sorts of different uses depending on the objective that they are meant to fill.

<https://www.techopedia.com/definition/24142/information-system-is>

**Information Technology**

IT is concerned with the study and management of processing information, usually in a large organisation but also within educational institutes as a subject. It is usually used to talk about computers and networking but it includes all systems within an organisation, anything that processes information is under IT.

<http://www.webopedia.com/TERM/I/IT.html>

**Database**

A database is a collection of information that has been ordered in a way that makes it easy for a program to select pieces of data. They can consists of thousands upon thousands of pieces of data all with different relationships between them. They are usually organised with fields, records and files. Each field is one piece of information, a records is made up of lots of fields and file is a set of records. Using this method it makes it easy for a program to quickly go in to a database to find a certain piece of information as all they have to do is follow a path of Database->File->Record->Field.

<http://www.webopedia.com/TERM/D/database.html>

**SQL**

Structured Query Language - This is a programming languages used to manipulate information within databases. It is mainly used within programs to grab data from databases as well as inputting and updating them. This is mainly done with queries which are lines of code that follow certain commands such as QUERY, SELECT, INSERT, UPDATE, etc. This allows the user to manipulate data in various ways.

<http://searchsqlserver.techtarget.com/definition/SQL>

**Database Management System (DBMS)**

A DBMS is a piece of software that allows users to manage a database. It allows methods of organising, retrieving, and querying data within a database. It also manages incoming data and organises it as well as allowing data to be fully edited and then manage outgoing data to other programs and users. Examples include MySQL, Microsoft Access, Oracle etc.

<http://techterms.com/definition/dbms>

**Data vs Information**

Data is unprocessed information and likewise information is processed data. Data by itself usually doesn't mean much and is hard to get any meaning from where as information is organised data that allows the observer to identify patterns, relationships etc.

**Relational Database**

A relational database is like any other database in the respect that it is a collection of organised data but items of data are organised in groups known as tables where data can be accessed and edited without having to change the entire database. This also allows relationships between tables so that when one item is change it will scale throughout the entire database meaning that the user will not have to find every instance of one piece of information and then change it.

<http://searchsqlserver.techtarget.com/definition/relational-database>

[**The Difference Between Data Privacy and Data Security**](http://blog.eiqnetworks.com/blog/bid/313892/The-Difference-Between-Data-Privacy-and-Data-Security)

Data security is the confidentiality and availability as well as integrity of data, it is all the implementations that have been put into place to make sure that data isn’t accessed by those who do not have the correct privilege rights.

Data privacy is the use of data, for example if companies use data that is provided to them they should use that data in accordance within the agreed terms and within the law, i.e. they cannot sell personal details to the public, etc.

<http://blog.eiqnetworks.com/blog/bid/313892/The-Difference-Between-Data-Privacy-and-Data-Security>