**ISD lab sheet week 1**

Create your logbook document, based on the template provided.

Start your logbook by answering the following questions:

Answer the following questions (in writing) to reflect on the contents of the lecture today. You can use the lecture slides as well as any source you find online, however, if you use an online source, please briefly mention it in your answer (like “as seen on <https://www.python.org/>”).

Elaborate in your answers where you are asked to explain something. Your answers will be part of your logbook (once we have set it up) and therefore please store your answer document (preferable .doc or .docx) on your UWL cloud storage (see lecture slides) or wherever convenient for you.

Your answer document should be at least a page long. You can write more but also keep your answers concise.

Questions:

1. What is a code repository (often also called version control system) used for?

**Answer: A source code repository is a file archive and web hosting facility where a large amount of source code, for software or for web pages, is kept, either publicly or privately. They are often used by open-source software projects and other multi-developer projects to handle various versions.**

1. Why is it advantageous to use a code repository?

**Answer: it is an advantage to use a code repository because it**

* **Enables two or more people to collaborate on a particular work**
* **Act as a backup**
* **Saves every version of your project after making changes**

1. Describe the different “layers” of Software that exist on a typical computer and explain why there are different layers of software.

**Answer:**

* **Presentation layer:**

**This is the topmost level of the application. The presentation tier displays information related to such services as browsing merchandise, purchasing and shopping cart contents. Thus, it is a layer, which users can access directly (such as a web page, or an operating system's GUI).**

* **Application layer:**

**The logical tier is pulled out from the presentation tier and, as its own layer; it controls an application’s functionality by performing detailed processing. This is also known as the middle tier**

* **Business layer:**

**In computer software, business logic or domain logic is the part of the program that encodes the real-world business rules that determine how data can be created, stored, and changed**

* **Data access layer:**

**The data tier includes the data persistence mechanisms (database servers, file shares, etc.) and the data access layer that encapsulates the persistence mechanisms and exposes the data.**

**Multitier *(N*-tier) application architecture provides a model by which developers can create flexible and reusable applications. By segregating an application into tiers, developers acquire the option of modifying or adding a specific layer, instead of reworking the entire application.**

1. Describe what an algorithm is and explain why it is a useful “tool” to translate from a human level problem (we can think of) to a computer program.

**Answer:**

**An algorithm is a process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.**

**It is a useful tool because it is:**

* **An easy technique to understand logic**
* **Easy identification of mistakes (even by non computer persons)**
* **Very easy to write**