

ISLAMIC UNIVERSITY OF TECHNOLOGY



DATABASE MANAGEMENT SYSTEMS LAB

CSE 4308 / CSE 4174

Lab 0

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1 Task 1

In this task, you will understand the necessity of database management systems (DBMS) by creating a simple DBMS that interacts with text files. You will develop a basic system that reads, writes, and manages data stored in text files, and in doing so, you will explore the limitations of text files as a data storage solution. Your task is to build a basic database management system in **C** or **C++** that can perform the following operations:

- Reading the database file.
- Inserting new rows in the database file.
- Updating certain columns for some entries in the file.
- Deleting entries from the file.
- Searching entries from the file based on a unique ID.

A text file called `spells.txt` is provided with this task. It contains an existing database that looks like this:

Spell ID	Incantation	Spell Name	Effect	Light
1	Accio	Summoning Charm	Summons an object	
2	Aguamenti	Water-Making Spell	Conjures water	Icy blue
3	Alarte Ascendare	Launch an object up into the air	Rockets target upward	Red
4	Alohomora	Unlocking Charm	Unlocks target	Blue

Table 1: Spells dataset from the `spells.txt` file.

The `spells.txt` file keeps each column separated by a **comma** (,) and each row using a **new line**.