

Data Structure & Algorithms

Project: Building a Database

Introduction

Databases are a fundamental part of the computer science landscape. Countless years of development have been dedicated to their evolution throughout the years. One of the most popular ways to store data is a relational database. Your task in this project is to write a simple database from scratch.

Expected Work

The main goal of the project is to have a working simplistic database. The work **MUST** be handed in the form of a git repository **BEFORE THE DUE DATE**. A 1 page report explaining how your project works is expected (In the form of a README)

Difficulty	Points /20	Description
Easy	4	Have a structure of a database with a fixed Table: For example a "Phonebook" table. Be able to add new data, look up a phone number
Medium	3	Have a general database structure: Have a database that support Tables with any number of rows with any data type
Medium	2	Have index on specific rows: Speed up the search time in your table by implementing indexes
Medium	2	Have a command to build or rebuild an index
Medium	2	Have a query language that supports <i>SELECT</i> without <i>WHERE</i> or <i>JOIN</i> . Just select.
Medium +	2	Support the WHERE clause with a single condition
Super Hard	3	Support the WHERE clause for any condition.
Medium +	2	Write and read the database from the disk
Mega HARD	+ 4	Support Table joins and the JOIN clause
God Tier	+ 4	Make a driver so that your database runs in the background and the driver listens on a UNIX Socket for commands