week 5_3:

project overview

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Project Outline:

Management System in C

Using Text Files as a Database

PROJECT OVERVIEW:

Create a management system in C that showcases **CRUD (Create, Read, Update, Delete)** operations and **search** functionality using **text files** as a **database.** The project should demonstrate **clean** and **readable** code with **proper usage** of **functions.** The development process will be documented via **GitHub** with a **well-maintained README** file and appropriate **commit messages.** The **final submission** will include a single **`.c` file, a `.txt` file as the database, and a report PDF.** The **project checklist markdown file** must be **cloned** into the **project repo** and **updated accordingly.**

PROJECT STRUCTURE:

- SETUP:

Create a GitHub repository for the project.
Set up the project structure with initial files:

- `main.c`
- `database.txt`
- `README.md`
- `report.pdf`

- FUNCTIONALITY IMPLEMENTATION:

Create Operation:
- Implement a function to add new records to the database.

Read Operation:
- Implement a function to display all records from the database.

Update Operation:
- Implement a function to modify existing records in the database.

Delete Operation:
- Implement a function to remove records from the database.

Search Functionality:
- Implement a function to search for records based on specific criteria.

- FILE HANDLING:

- Use file I/O functions to read from and write to the text file.
- Ensure proper opening and closing of files.
- Handle potential file-related errors.

- CODE READABILITY AND ORGANIZATION:

- Use functions to modularize the code.
- Follow camelCase naming convention for variables and functions.
- Ensure code is properly indented and commented.

- **ERROR HANDLING:**

- Implement error handling for user inputs and file operations.

DOCUMENTATION AND REPORTING:

- **GITHUB USAGE:**

  - Regular commits with meaningful messages in the format: "Added/Updated *featureName*/changes".
  - Maintain a comprehensive `README.md` file.
- Update the **`PROJECT_CHECKLIST.md`** file regularly.

- **REPORT PDF:**

- Detailed explanation of each part of the code.
- Include pictures and a logo.
- Use tools like **Canva** for design.
- Summarize project features and implementation details.

MARK DISTRIBUTION:

Report PDF: 20 points
  - **Detailed explanation of code parts.**
  - **Visual appeal with pictures and logo.**

GitHub and Git Usage: 10 points
  - **Proper commit messages and version control.**
  - **Comprehensive `README.md`.**

Main C File: 70 points
  - **CRUD and Search:** 40 points
  - **Code Readability:** 5 points
  - **File Usage:** 10 points
  - **Error Handling:** 5 points

rtp

next class 5_4:

project issues

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