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PA1 Design Document

How your program organizes multiple databases
This program is written in Python. Its purpose is to begin the design of a SQL type database and it organizes multiple databases with the use of different basic commands, such as being able to create or delete databases and tables or even query and update the tables.

How the program manages multiple tables
The creation of directories in this system is what greatly helps manage multiple tables. The commands ‘mkdir’ and ‘rm-r’ are used for creation and deletion. Tables may also be created within the appropriate directories using the ‘touch’ command along with different file editing capabilities that are used in Python. They can simply be deleted through the ‘rm’ command.

At a high level, how you implement those required functionalities
To implement these required functionalities at a high level, it was necessary to make them modular. This is why attributes passed in every command are separated from the rest of the user input and placed into a Python list. From there, we can manipulate the list, at the time of writing to the file, to add delimiters between attributes. This ensures that a command with a certain number of attributes can be properly parsed. There are also two helper functions included to check if there are any existing databases/tables. By using the ‘subprocess’ Python library and bash commands, detecting this is very simple. Error handling is also included, so if any of the if-statements aren’t accurate, a message explaining the error will be displayed.

Execution Commands
Run the command “python3 main.py”