PROJECT REPORT

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SUMMARY

In this project, we are creating a database using linked list and a text file. We got the concepts from MySQL language. Basically, program creating tables and linking them with linked list structure.

PROBLEM DESCRIPTION

Firstly, there should be a variable that keeps tables information such as type and field. Secondly, we need to link these tables to obtain a structure that keeps all the information.

Tables need to take any number of columns and rows. Also, everything needs to be in memory. We need to save the data to text file only one time for working previous table.

IMPLEMENTATION

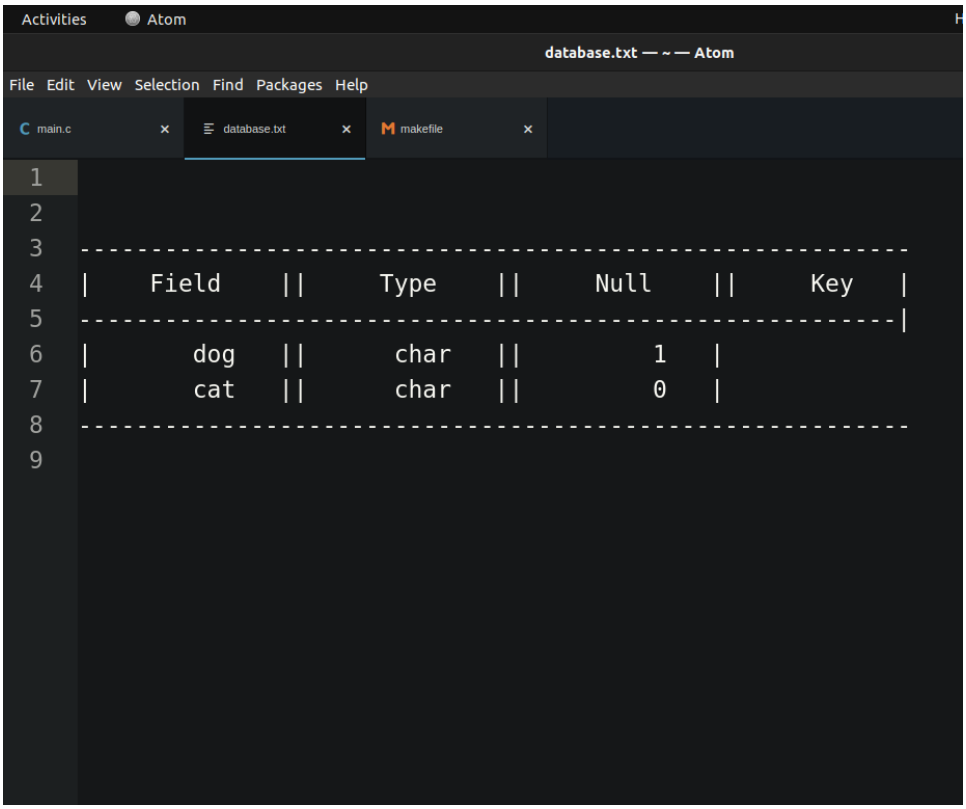
I have a menu for users to select which operations they would like to choose. For creating database, they need to enter a table name.

```
furkan@Furkan:~/Downloads/ödev11$ make
----------------------------------------
Removing compiled files...
----------------------------------------
Compiling...
----------------------------------------
Running the tests....
================================================================================
======
./test

WELCOME TO THE DATABASE PROGRAM

1.Create a database
2.Describe tables
3.Exit

Please enter what you want to do: 1
Please give a name for your table: pet
```

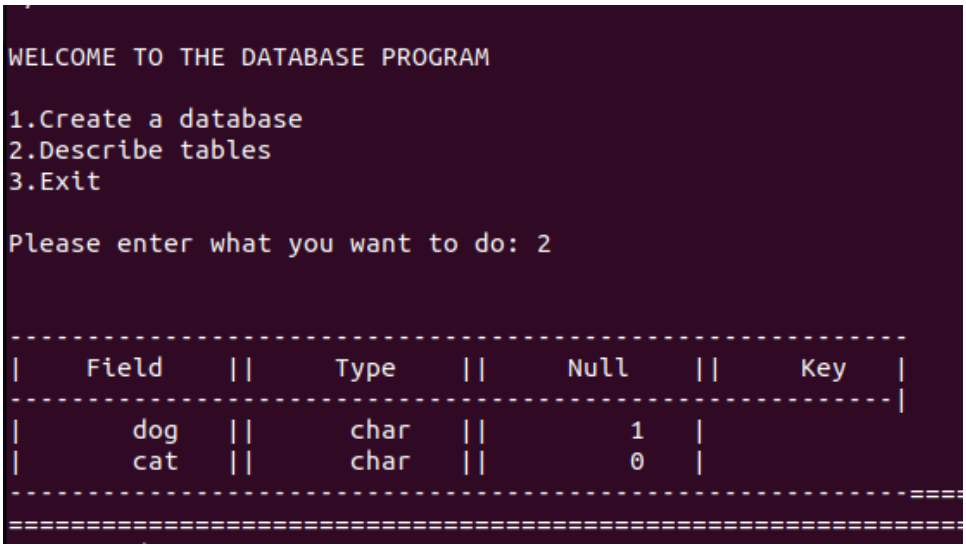
Then after getting the name, asking how many entries they will have. According to that entry number memory allocation is done. And then I am asking fields name, fields type and if they are null or not. Then store this data in linked list.

```
Please enter field names:
dog
What is the type of dog: char
Is dog null:(1:yes 0:no) 1

Enter the other field name:
cat
What is the type of cat: char
Is cat null:(1:yes 0:no) 0
 ================================================================================
=======
Completed tests....
furkan@Furkan:~/Downloads/ödev11$
```

Since we need to store the datas to file program also does that.



For seeing all tables user can select second option.



TESTS AND DIFFUCULTIES

Since this project is doing everything with dynamic memory allocation and linked list, I encountered too many segmentation errors. There are also classic scanf problems when getting input in loop. I had to use a flush function to clear the input buffer. There were little bit tedious statements like double pointer inside struct inside struct. Everything needs to be allocated. I spent nearly 25 hours to make this project.