İSTANBUL TECHNICAL UNIVERSITY
Faculty of Computer Science and Informatics

BLG 317E
Database Systems

Take Home Exam Report

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INTRODUCTION

I developed this project for my take home exam. In fact, I started this project on 15 July. In the first days , i repeated the SQL language. Then I had the chance to test this information on the large data on sqlite. Later, i got detailed information about Flask, a Python framework. I had some knowledge of them before this project. I have tried a few small test projects after reaching the required skills. Finally, i started to main project. In this project I worked as a full stack developer. Thanks to this application, data is controlled more easily and faster without any codes.

DESCRIPTION AND ANALYSIS OF THE PROJECT

Sqlite, one of the most popular Open Source SQL database management system, is developed, distributed, and supported.

Flask is a microframework for Python based on Werkzeug, Jinja 2 and good intentions. In this project i used Flask. I used only Python in the background, while using html css and Javascript on the front side. So I run it on my localhost (127.0.0.1).

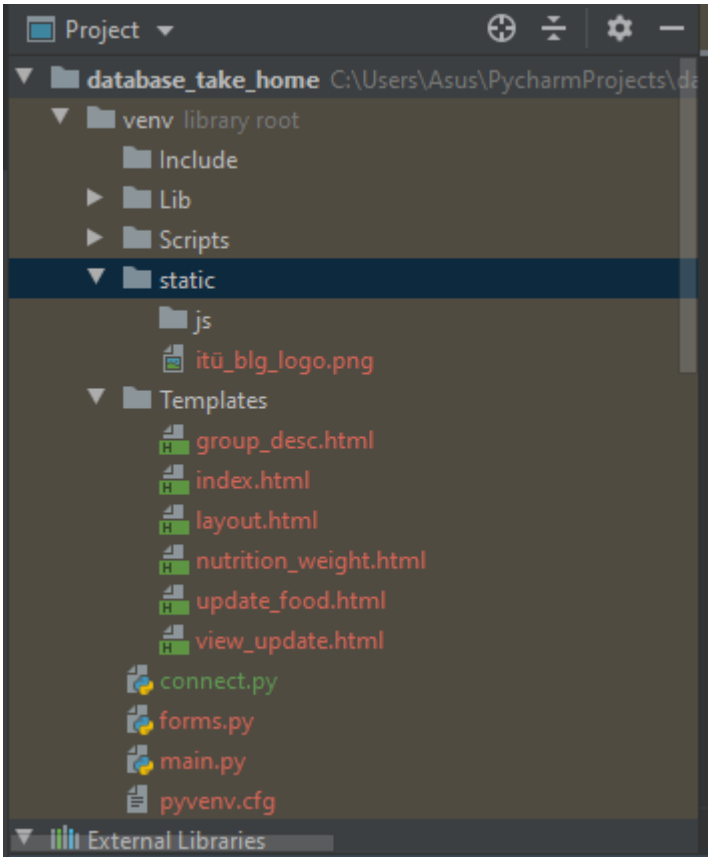

Figure 1. HTML Pages in project

These are HTML pages in the project. In the flask framework, html files are found by default under the templates folder. I split the HTML pages into groups at the end of the project. Layout.html is special file. It is used for all other html files. When we extends layout.html, theme of each page is taken from layout.html.

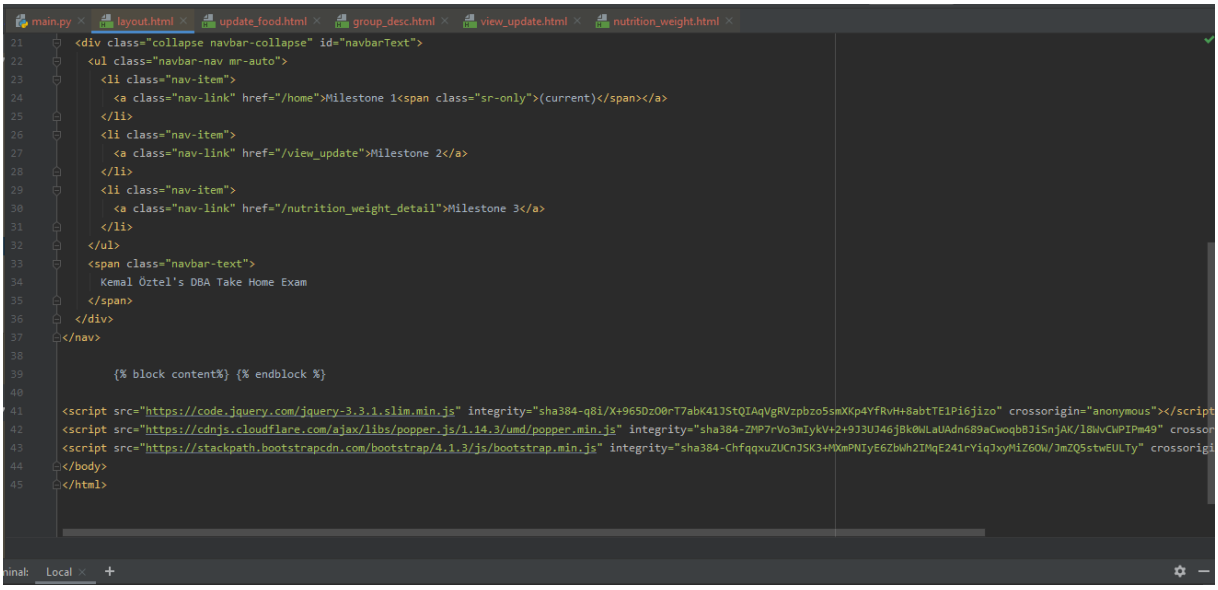

Figure 2. layout.html

In the above example, we see the template of the page that printed the 404 error screen. Layout.html extends, and then only different code parts are written. Such abbreviations are vital for future developers. In the event of a problem, the whole issue can be solved by a change to a single file.

Figure 3. Py files

These are python files in this project. First of all, thanks to connect.py, we connect server we want. And then, the file in the background works according to the process we selected in the front. The navbar is available on all pages. Top side of each page allows us to select the milestone we want easily.

Now I'm going to explain how a process takes place. Firstly, food groups are listed in milestone 1. When you want to see the dishes belonging to the groups, you can click the ‘SEE’ button next to them.

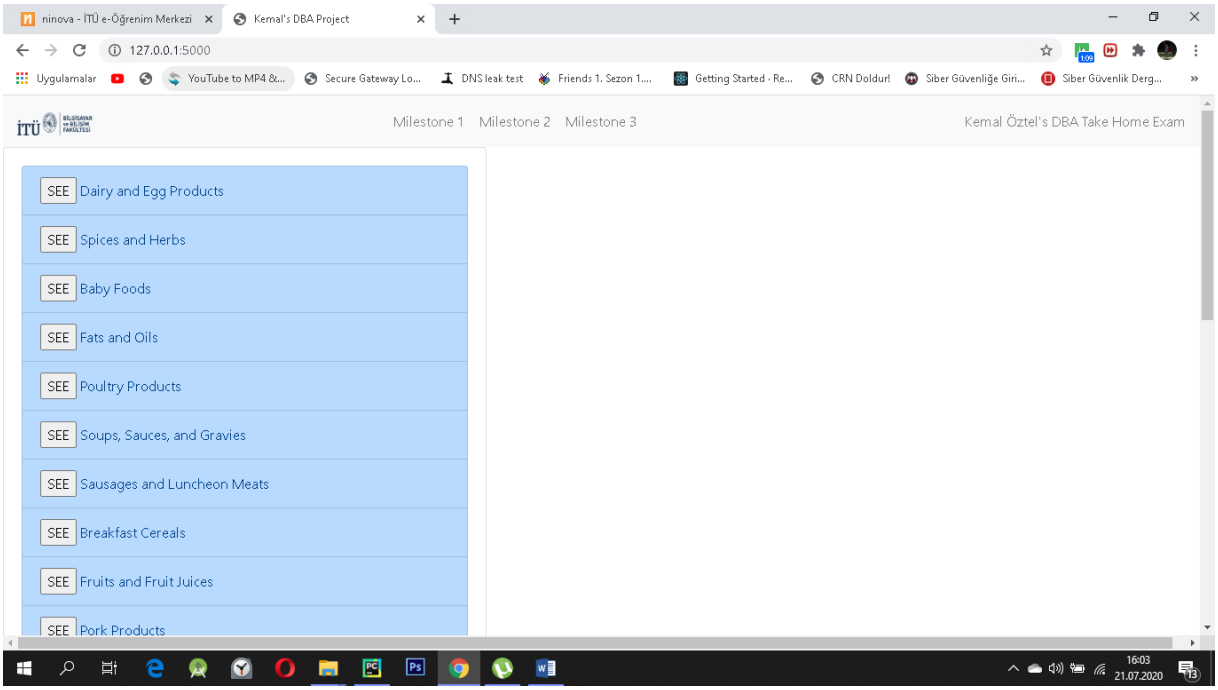

Figure 4. Milestone 1

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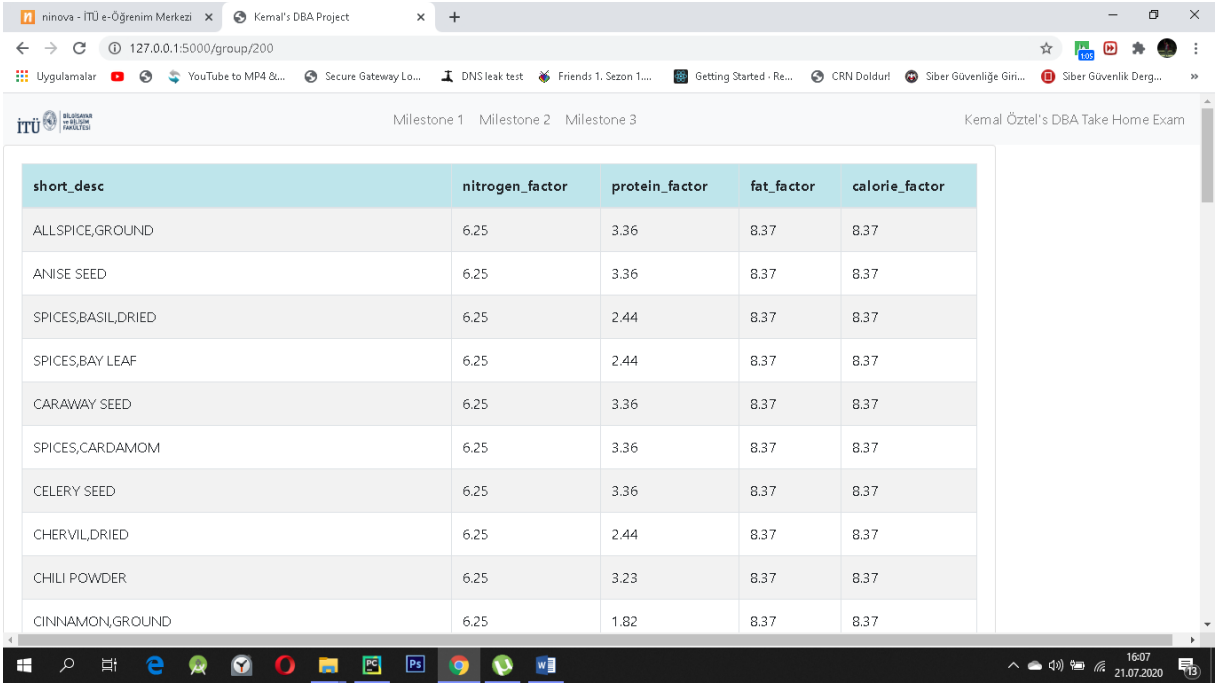
To illustrate, when you click the see button, you can see short_desc, nitrogen_factor, protein_factor, fat_factor and calorie_factor in a table.



short_desc	nitrogen_factor	protein_factor	fat_factor	calorie_factor
ALLSPICE,GROUND	6.25	3.36	8.37	8.37
ANISE SEED	6.25	3.36	8.37	8.37
SPICES,BASIL,DRIED	6.25	2.44	8.37	8.37
SPICES,BAY LEAF	6.25	2.44	8.37	8.37
CARAWAY SEED	6.25	3.36	8.37	8.37
SPICES,CARDAMOM	6.25	3.36	8.37	8.37
CELERY SEED	6.25	3.36	8.37	8.37
CHERVIL,DRIED	6.25	2.44	8.37	8.37
CHILI POWDER	6.25	3.23	8.37	8.37
CINNAMON,GROUND	6.25	1.82	8.37	8.37

Figure 5. Food Description and Nutrition Values

This is a page for each food group that contains a table where every row displays the short description and nutrition values (nitrogen, protein, fat, calorie) for each food in that group.

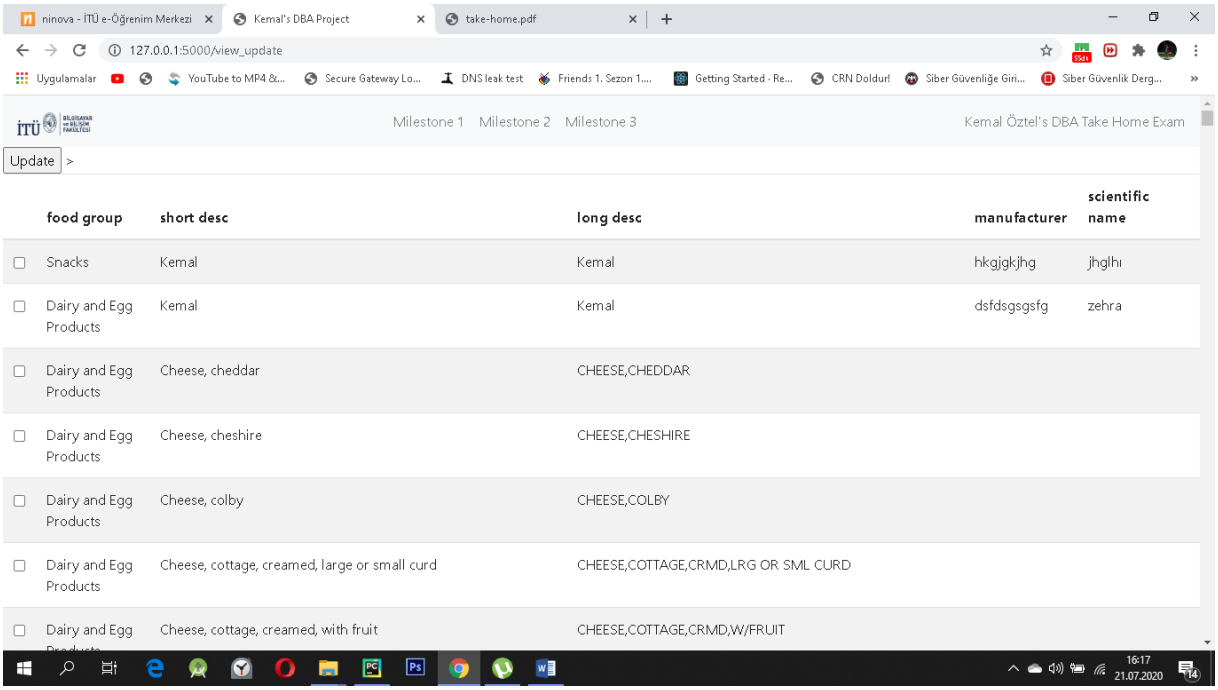


Figure 6. Milestone 2

'selected' is name of checkbox. Due to, food.id is primary key, their knowledge is kept in checkbox. This means that no food can be the same for food.id at the same time.

To update a line, we must first select and then enter the desired values on the page that opens.

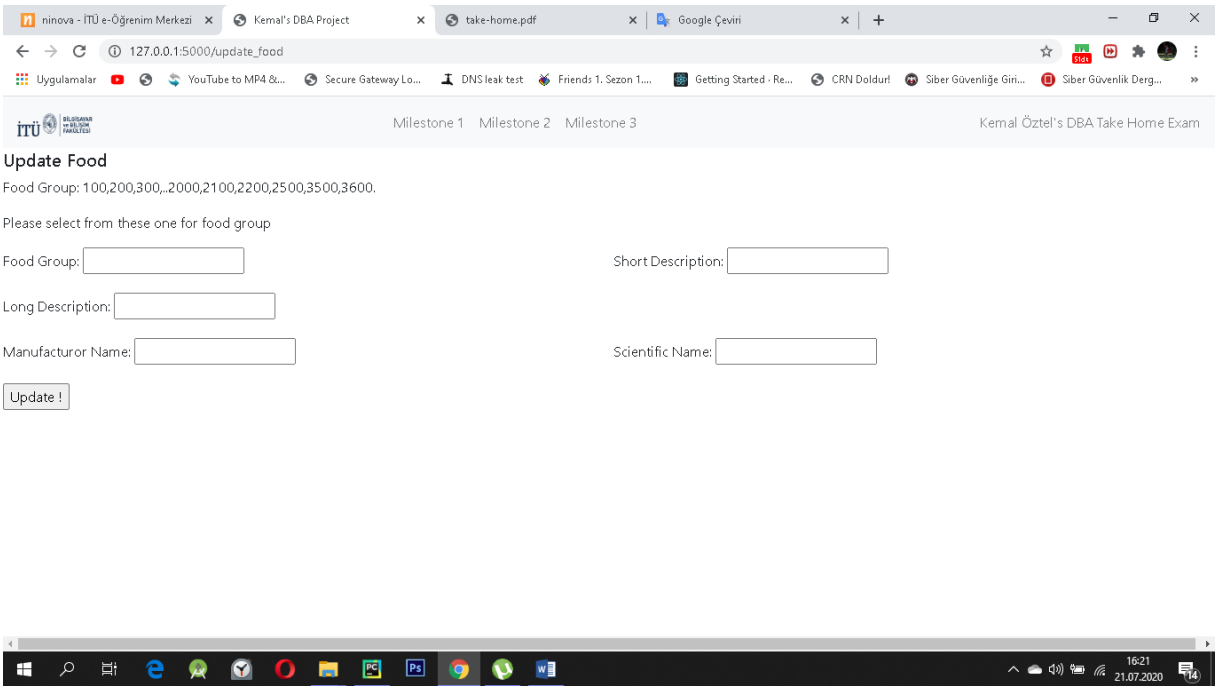


Figure 7. Update Page

We have to enter id in the food group. I consider the weak part of my project as this. I should have put a selectbox here. From there, the user should be able to choose the category he wants without writing letters. If I had some more time, I would fix this place.

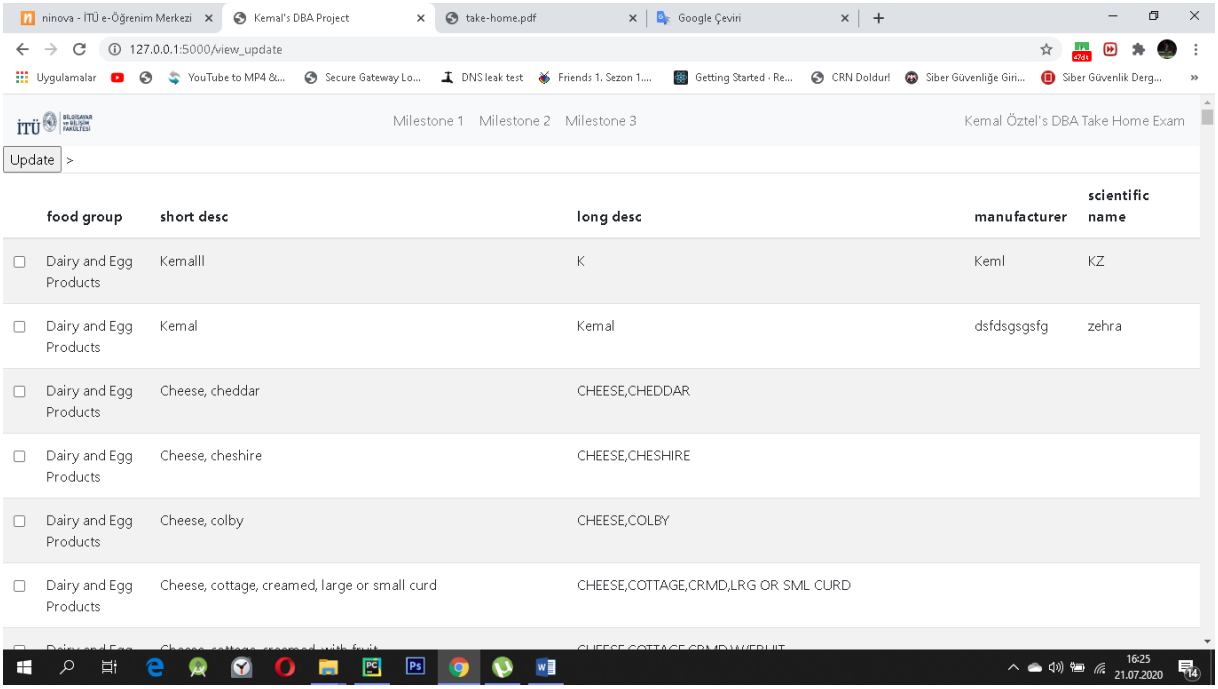


Figure 8. Updated Food Informations

With redirect, when we clicked the update button, we returned the previous page. In this way, we could also saw the updated data.

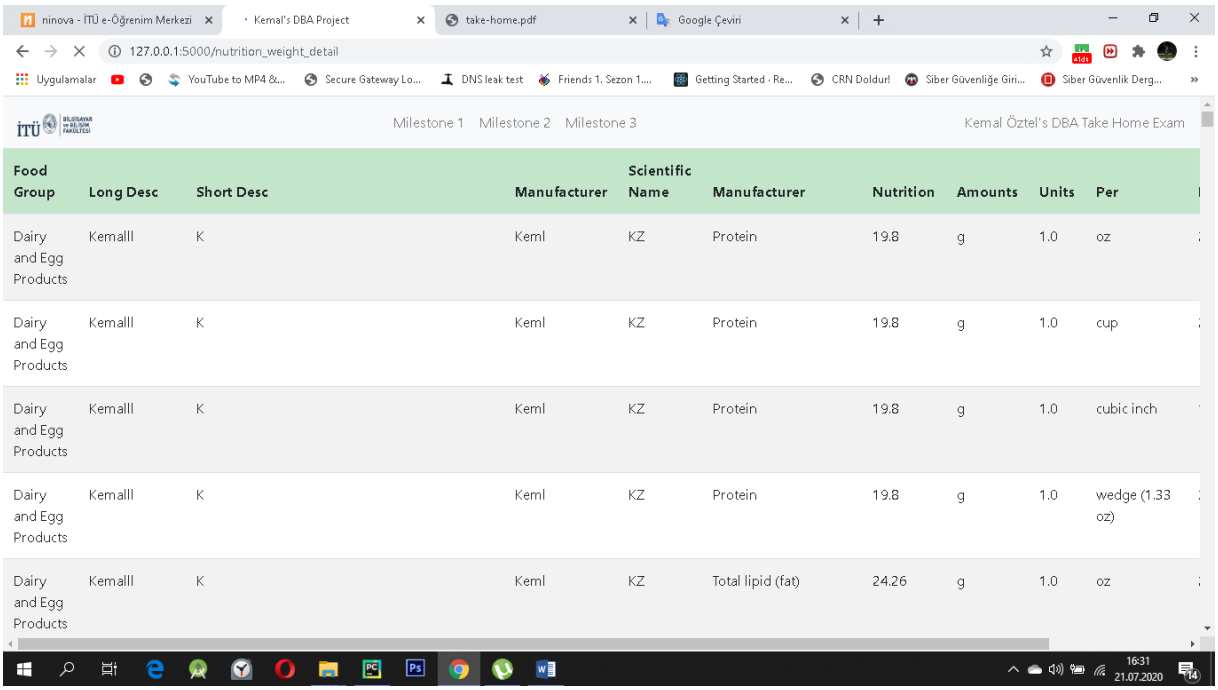


Figure 9. Milestone 3

I pulled the data using 3 inner joins in Milestone 3. For this reason, the page takes a little longer to load. The sql code I compiled is available in the main.py file. You can examine it under the ‘nutrition weight’ function.

I have committed the project to Github. I have shared the some codes from last sections here. Of course, while doing these, I learned the Git version control system. At the end of this project, I have had incredible experiences and a beautiful project. I learned a lot of new things.

REFERENCES

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   https://www.youtube.com/playlist?list=PL-osiE80TeTs4UjLw5MM6OjgkjFeUxCYH

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3. **Flask Documentation**
   http://flask.pocoo.org/