

CSCA20 - Lab 9

Adding SQL

Learning Objectives

Lab 8 let you get data out of CSV files and merge them in order to create a nice graph. This lab lets you do the same thing, but using SQL (and hopefully demonstrating how much easier it is)

Prelab

This lab mostly focuses on SQL, so make sure you're comfortable with the provided `sql.tools` import, and that you can use it to read from and write to csv files

Demonstration & Evaluation

This lab only demonstrates the skill of SQL queries (because it's the last piece we haven't had a chance to demo yet), but if you're missing more than just that one skill, you may want to look at lab 10 before you start on this one... just a hint

The Scenario

The Universally Tallying Shopping Cart (UTSC) was so happy with the system you made for them last week, that they want you to build a new tool to help them figure out patterns in who buys what.

Data Files

You have been provided with several CSV files:

- `budgets.csv` has info on the budget for a shopper
- `foods.csv` has information on foods including the price per item, location of the food's source, and whether it is classified as a fruit
- `people.csv` has information on customers including names, ages, addresses, the number of trips they have made to the store, and whether or not they are a member
- `purchases.csv` has information on which customer purchased which item, in what quantity and on what day

Completing the lab

In this lab, you will read the csv files into SQL tables, construct queries on those tables, and turn the results into csv files for output.

You should build a simple menu that allows the users to select the information that will be in the resulting SQL file (note: these should be the **ONLY** columns in the file)

- customer name, item purchased, day of the week
- customer id, customer budget, price of items they purchased ¹
- name of customer, number of visits, name of food purchased, day of the week on which it was purchased

The user should also be able to choose from the following options:

- Include all purchases
- Include only purchases made by members
- Include only purchases of fruits

Hints

If you're only doing this lab for the SQL mastery (i.e., you've demonstrated the other labs), this should be pretty straightforward, just load in the tables using the provided tools, write your query based on the choices in the user menu, and then export to a csv file.

But if you have other skills left to demo, you may want to skip ahead to lab 10, which lets you build up step by step (and gives you an additional week to prepare)

¹note: this is one row for each individual item purchased, you are not expected to sum the quantities here