US Food Prices

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Introduction:

Our mini-world scenario is the price of food in cities of the United States. We used the Numbeo API to grab the attributes we are using for our database, targeting the most common foods available such as bread loaves, eggs, milk, and more.

System Architecture

We were going to host the database in one of our KU people’s page. There we would have inputs that returns a value from our databse. The complete page is here: <https://people.eecs.ku.edu/~k269b222/647/website.html>

Database Design:

Our database consists of three tables. One for rent, another for states, and the last one for food prices. Each of these database is all tied together through CITY\_NAME which serves as its primary key.

Implementation notes:

The implementation of each of the query is separated into its own php file. Unfortunately the implementation had to be rushed and the queries ended up not being complex.

Test Results:

All the queries worked as intended.

**Extra code:**

We also used a python program to pull the data using the Numbeo api. We plan to extend the code and use the data we received here to generate an SQL file similar to cruise.sql. In other words we will create a loop that will go through the data we pulled to create SQL insert statements. The code we have finished so far does the first part, which is data gathering. We will finish the second part later.

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| import requests import json  ##Get all the names of all cities and place it into an array## cities\_url="https://www.numbeo.com/api/cities?api\_key=s3lxzv9hgsytve" cities\_response = requests.get(cities\_url)  cities\_data = cities\_response.text cities\_parsed = json.loads(cities\_data)  cities = cities\_parsed["cities"] city\_list = [] country\_and\_city = ["city", "country"]  for x in range(len(cities)): city\_list.append({key:cities[x][key] for key in country\_and\_city})  food\_and\_city = []  ##This is to get each city food prices for x in city\_list: if x["country"] == "United States": url = "https://www.numbeo.com/api/city\_prices?api\_key=s3lxzv9hgsytve&query=" +  x["city"] + "," + x["country"] response = requests.get(url)  data = response.text parsed = json.loads(data) print(json.dumps(parsed, indent =4))  if "prices" in parsed: items = parsed["prices"] food\_prices = [] current\_city = x["city"] attribute\_subset = [ "average\_price", "item\_name"]  for i in range(len(items)): if (("Restaurant" in items[i]["item\_name"]) or ("Market" in  items[i]["item\_name"])) and ("average\_price" in items[i]):  food\_prices.append({key:items[i][key] for key in |

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| attribute\_subset}) cityPrice = [food\_prices, current\_city] food\_and\_city.append(cityPrice) print(food\_and\_city[0]) |