Al Dente's ETL Pipeline

Now serving customer data for analytics!

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PRD Overview

Al Dente, a local chef running a food truck, wants to finally open up his own restaurant in one (or a few) lucky cities.

Hamburgers

Tacos

Food Party

What's the problem?

Scenario 1

Al has no idea where to set up new restaurants, or what to put on the menu.

Scenario 2

Al also wants to do a special promotion on opening day to retain old customers, and bring in new ones.

PRD Objectives

Objective 1:

Convert source files to Pandas dataframes

Objective 2:

Clean and merge source files

Objective 3:

Design schema and set up database

Objective 4:

Export data from source files into the new database

Features In

01 Restaurant locations — Find the top 3 states to build restaurants in

02 Statistics — Deliver customer and order statistics

03 Custom Menus — Develop a custom menu for each new restaurant

04 Custom Promotions — Develop promotions to bring customers to the new locations

Data Process

- Finding connection w/demographics & orders

- Handle demographics data

- Configure the customer statistics data

Demographics and Orders Relationship?
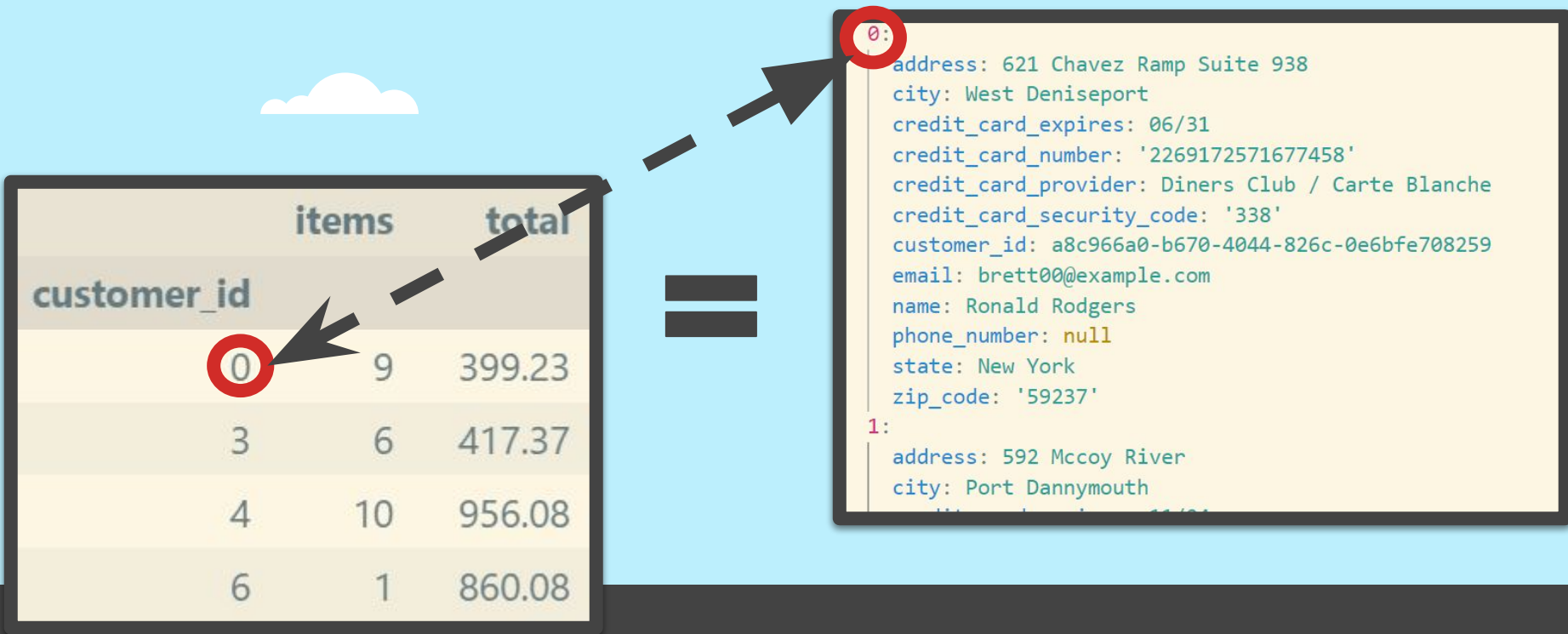
Orders Cust-ID

	order_id	customer_id
0	f1d6b4c4-0f9f-4ba6-8d5d-f7e4ef7cd9a0	2652
1	7b8a732e-85a0-4fa2-b282-a2d232ee182e	1756
2	eab436d-2acb-4bc8-b849-fbce859ffd8a	2989
3	d6313392-8901-42f6-bf8a-4805fe816a46	9903
4	f73f8c45-28c2-473f-a3ba-e65ed5890ac6	8627
5	ff5d6856-7369-459c-a090-997c72578eeb	2323
6	92ff5f6a-f745-408b-9efc-2d0d4b678de8	1837
7	5bbaa315-fb85-4301-b179-09f4859abd32	1314
8	3fd6ad7c-241c-43a8-864d-bb6604ccaaf7	9977
9	c5ce7e50-f7b1-4c97-8bc6-ab656d67f46a	9358

≠

Demographics Index

```
0:
    address: 621 Chavez Ramp Suite 938
    city: West Deniseport
    credit_card_expires: 06/31
    credit_card_number: '2269172571677458'
    credit_card_provider: Diners Club / Carte Blanche
    credit_card_security_code: '338'
    customer_id: a8c966a0-b670-4044-826c-0e6bfe708259
    email: brett00@example.com
    name: Ronald Rodgers
    phone_number: null
    state: New York
    zip_code: '59237'
```

Demographics Index is Key!

customer_id	items	total
0	9	399.23
3	6	417.37
4	10	956.08
6	1	860.08

=

```
0:
    address: 621 Chavez Ramp Suite 938
    city: West Deniseport
    credit_card_expires: 06/31
    credit_card_number: '2269172571677458'
    credit_card_provider: Diners Club / Carte Blanche
    credit_card_security_code: '338'
    customer_id: a8c966a0-b670-4044-826c-0e6bfe708259
    email: brett00@example.com
    name: Ronald Rodgers
    phone_number: null
    state: New York
    zip_code: '59237'
1:
    address: 592 Mccoy River
    city: Port Dannymouth
```

Formatting and Handling Data

Multiple phone formats

phone_number
(886)508-2604
+1-393-565-9389x308
982-985-8137x948
(515)949-0785x60793

Duplicate Emails

name	email
Robert Meadows	aclark@example.com
Stephen Hawkins	aclark@example.com
Paul Brennan	amanda31@example.com
David Morris	amanda31@example.com
Maurice Williams	amoreno@example.net
Kelly Yang	amoreno@example.net

Unnecessary info

credit_card_provider
JCB 16 digit
JCB 16 digit

Formatting Results

phone_number
(886)508-2604
+1-393-565-9389x308
982-985-8137x948
(515)949-0785x60793

credit_card_provider
VISA 13 digit

phone_number	credit_card_provider
843-780-6673	American Express
848-533-4580 ext: 219	VISA

Re-Constructing Customer Statistics

order_id	customer_id	items	aperitifs	appetizers	entrees	desserts	total
4ef7cd9a0	2652	7	Aperol Spritz	Pate	Pork	Tiramisu	751.87
32ee182e	1756	3	Sherry	Pate	Pasta	Cheesecake	156.43
e859ffd8a	2989	5	Bellini	Pate	Lobster	Chocolate Cake	364.13
5fe816a46	9903	3	Sherry	Salad	Pizza	Cheesecake	805.62
d5890ac6	8627	2	Port	Pate	Lobster	Pie	638.43

Orders Data
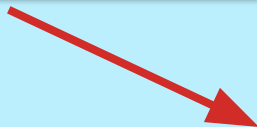
Customer Statistics Data

customer_id	total_orders	total_items	total_spent
8037	5	20	300.39
4290	2	3	332.66
5367	3	7	643.27
4755	10	12	649.12
2651	10	9	794.28

Database Schema

customer_demographics ▼
- 🔑 customer_demographic_id VARCHAR(40)
- 🔶 customer_id INT
- 🔷 name VARCHAR(50)
- 🔷 email VARCHAR(62)
- 🔷 phone_number VARCHAR(30)
- 🔷 address VARCHAR(95)
- 🔷 city VARCHAR(35)
- 🔷 state VARCHAR(50)
- 🔷 zip_code INT
- 🔷 credit_card_number VARCHAR(19)
- 🔷 credit_card_expires CHAR(5)
- 🔷 credit_card_security_code INT
- 🔷 credit_card_provider VARCHAR(50)

Indexes ▶

customer_statistics ▼
- 🔑 customer_id INT
- 🔷 total_orders INT
- 🔷 total_items INT
- 🔷 total_spent FLOAT

Indexes ▶

orders ▼
- 🔑 order_id VARCHAR(40)
- 🔶 customer_id INT
- 🔷 items INT
- 🔷 aperitifs VARCHAR(30)
- 🔷 appetizers VARCHAR(30)
- 🔷 entrees VARCHAR(30)
- 🔷 desserts VARCHAR(30)
- 🔷 total VARCHAR(30)

Indexes ▶
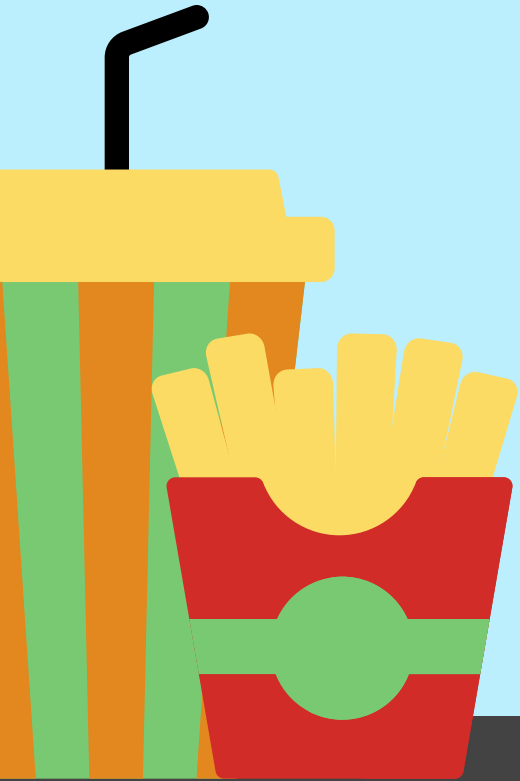
Finding the right locations

When deciding which states to place
restaurants in, we took a look at 2 key features

Total Spent

Would the best
locations be in states
that spent the most?

OR

Orders

Would the best
locations be in the
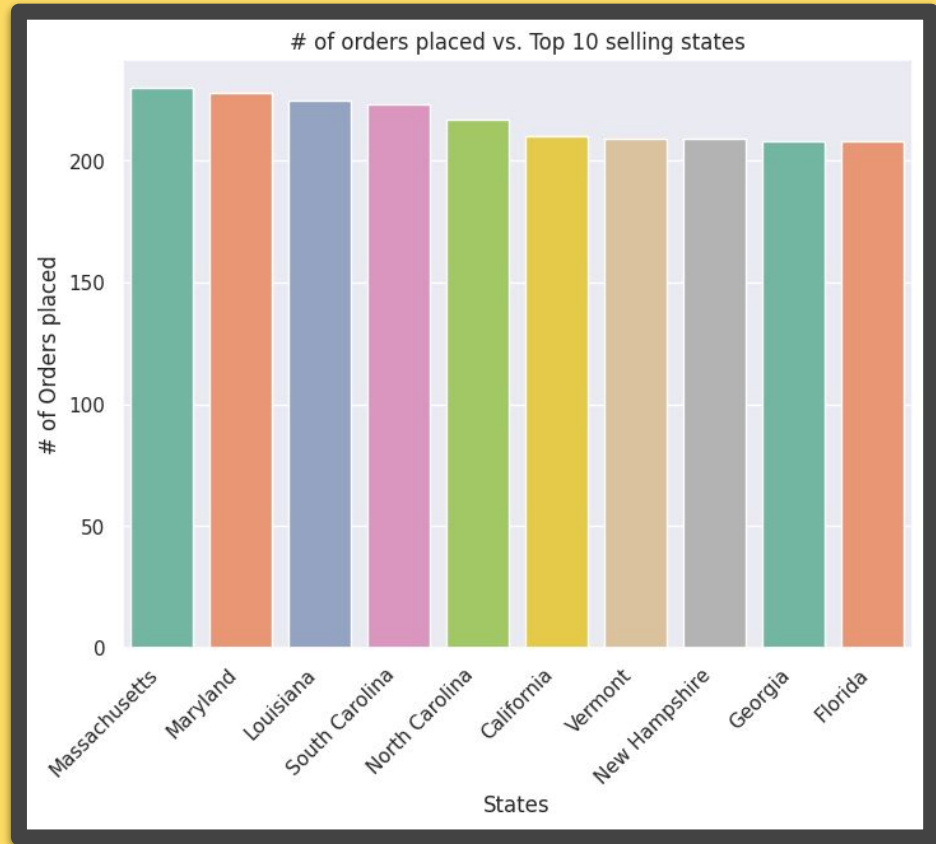states that placed the
most orders?

| 50% | 50% |
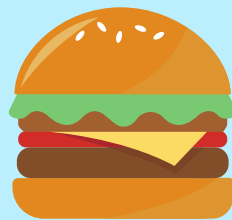
States with the highest amount of orders placed
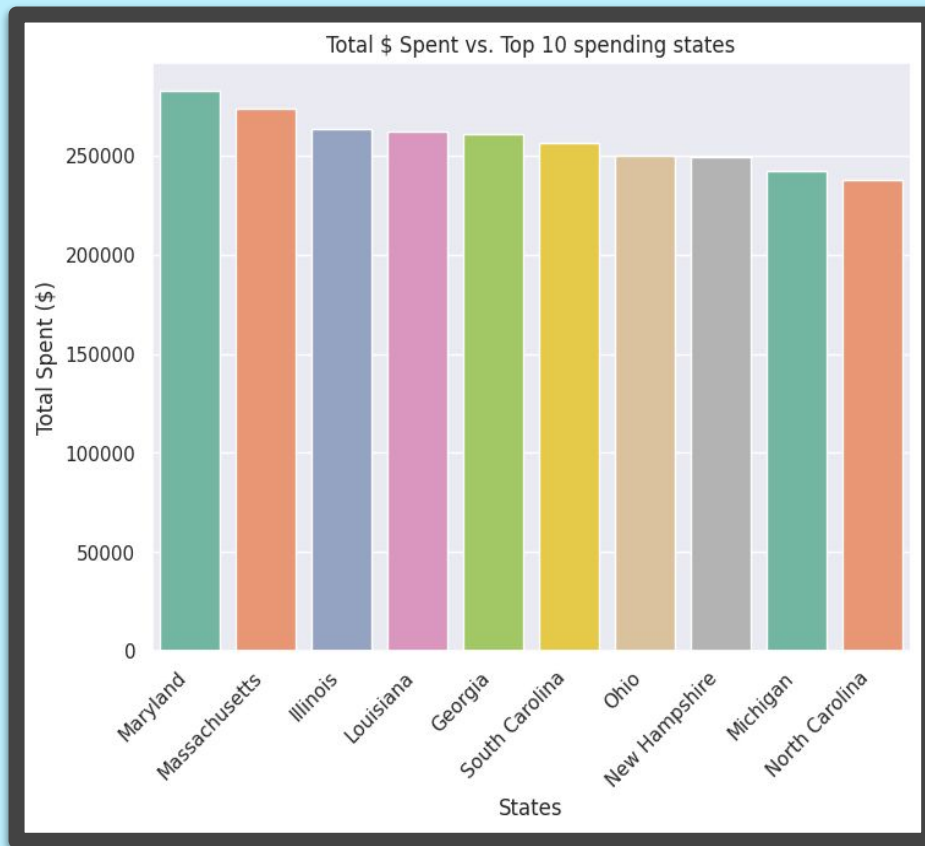
● States of Interest

1. Massachusetts
2. Maryland
3. Louisiana
4. South Carolina
5. North Carolina

States with the most money spent

● States of Interest

1. Maryland
2. Massachusetts
3. Illinois
4. Louisiana
5. Georgia

Comparative Analysis

	Total Revenue	Orders Completed	Avg $ per order
Most orders	$2496890.39	2167	$1152.23
Most $ spent	$2577365.15	2153	$1197.10

Our Plans

Choosing the states with the most money spent.

Most orders

Although these states boasted the highest amount of orders, they are lacking in revenue and $ spent per order.

Most $ spent

These states may have a lesser amount of orders, but generate the most revenue both in total and per order, making them more profitable.

Making a Decision
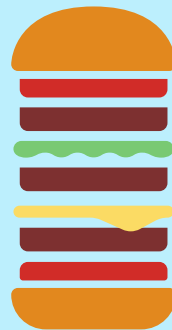
These are the top 3 states to open up restaurants
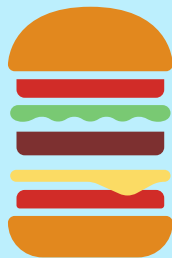
#3
Illinois
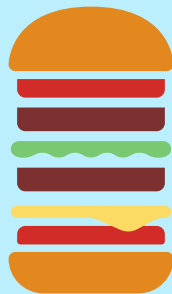
#2
Massachusetts

#1
Maryland

Building the menus

Each state has a different preference for each course of their meal.

Let's investigate and find the best menu for each state

Maryland Aperitifs

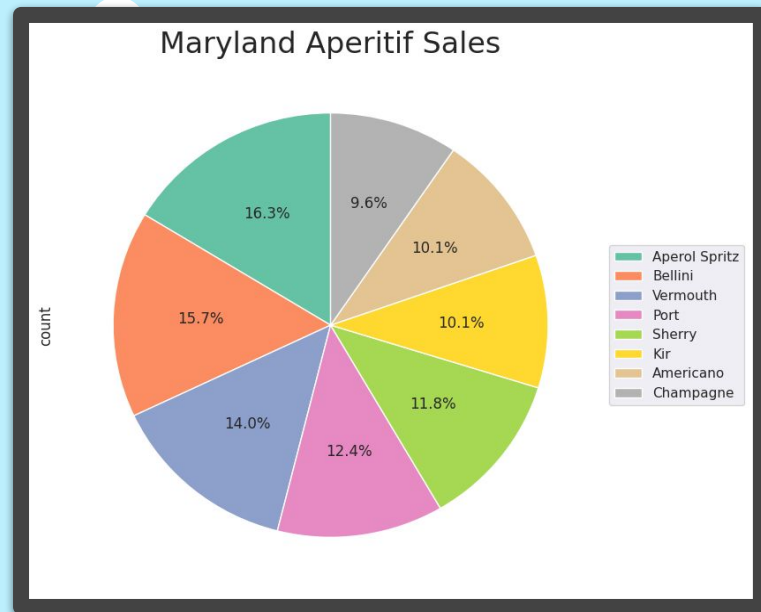## Aperol Spritz

16.3% of top Aperitif sales in Maryland

Bellini

15.7% of top Aperitif sales in Maryland

Vermouth

14.0% of top Aperitif sales in Maryland

Port

12.4% of top Aperitif sales in Maryland

Maryland Aperitif Sales

	Aperol Spritz
	Bellini
	Vermouth
	Port
	Sherry
	Kir
	Americano
	Champagne

16.3%
9.6%
10.1%
15.7%
10.1%
14.0%
11.8%
12.4%
count
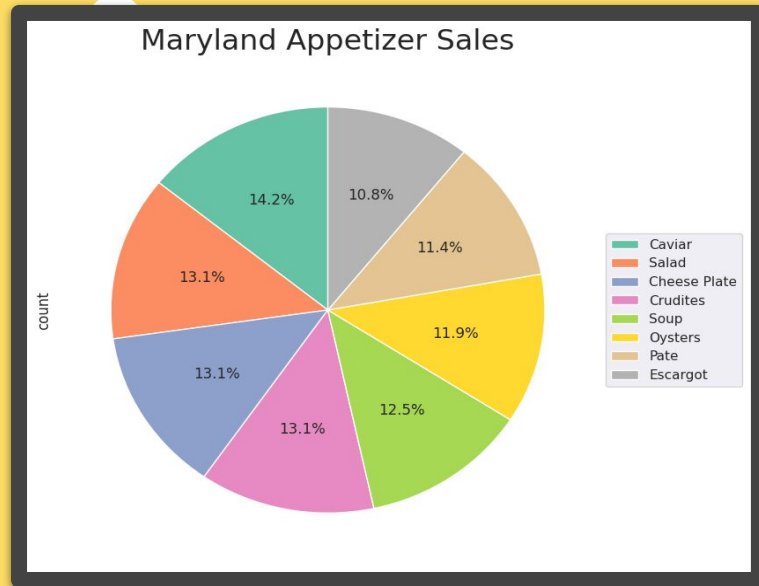
Maryland Entrees

Lobster

15.9% of top entree sales in Maryland
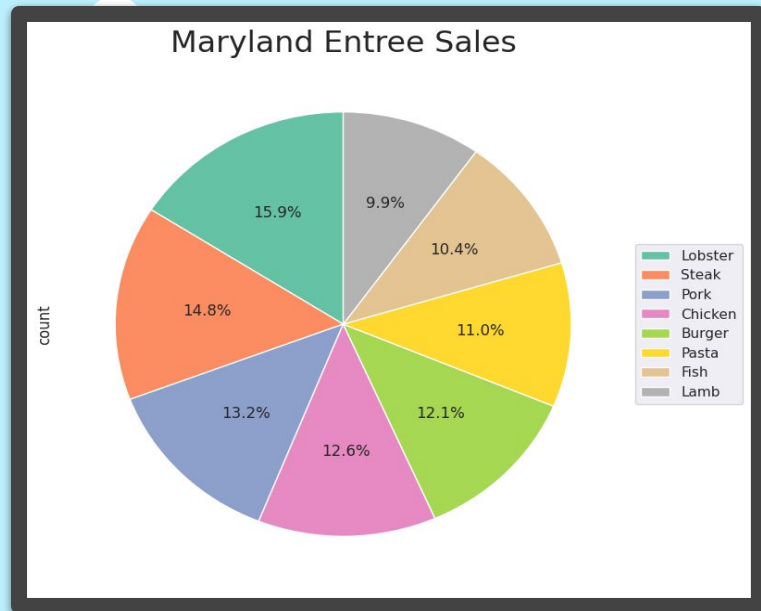
Steak

14.8% of top entree sales in Maryland

Pork

13.2% top of entree sales in Maryland

Chicken

12.6% top of entree sales in Maryland

Maryland Entree Sales

15.9%	9.9%
14.8%	10.4%
13.2%	11.0%
12.6%	12.1%

count

Legend:
- Lobster
- Steak
- Pork
- Chicken
- Burger
- Pasta
- Fish
- Lamb

Maryland Desserts

Sorbet
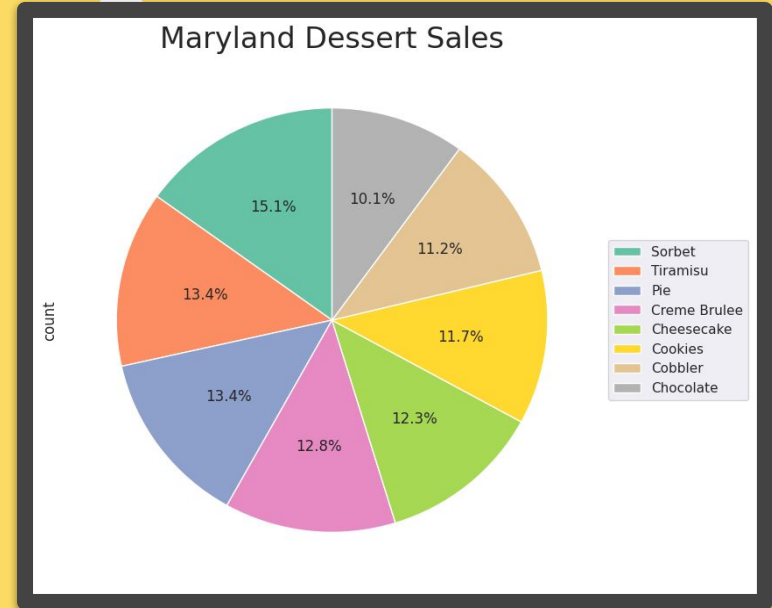
15.1% of top dessert sales in Maryland

Tiramisu

13.4% of top dessert sales in Maryland

Pie

13.4% of top dessert sales in Maryland
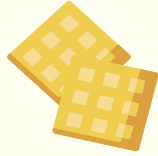
Creme Brulee

12.8% of top dessert sales in Maryland

Maryland Dessert Sales

count

Legend:
- Sorbet
- Tiramisu
- Pie
- Creme Brulee
- Cheesecake
- Cookies
- Cobbler
- Chocolate

15.1%
10.1%
11.2%
13.4%
11.7%
13.4%
12.3%
12.8%

Maryland Menu

Aperol Spritz
Bellini
Vermouth
Port

Aperitifs

Caviar
Salad
Cheese Plate
Crudites

Appetizers

Lobster
Steak
Pork
Chicken

Entrees

Sorbet
Pie
Tiramisu
Creme Brulee

Desserts

Massachusetts Aperitifs

Port

16.2% of top aperitif sales in Massachusetts

Bellini

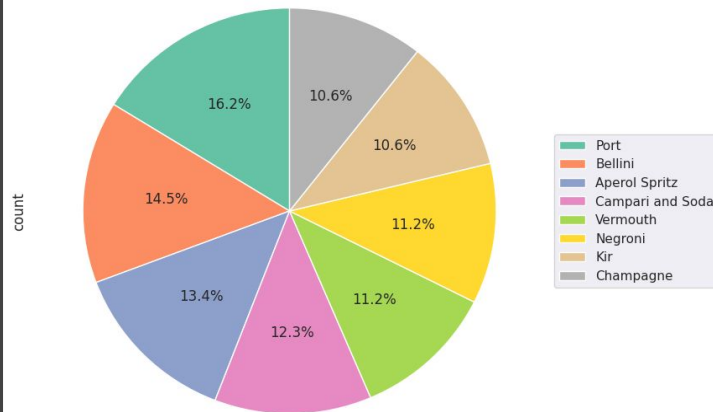14.5% of top aperitif sales in Massachusetts

Aperol Spritz

13.4% of top aperitif sales in Massachusetts

Campari and Soda

12.3% of top aperitif sales in Massachusetts

Massachusetts Aperitif Sales

- Port
- Bellini
- Aperol Spritz
- Campari and Soda
- Vermouth
- Negroni
- Kir
- Champagne

16.2% 10.6% 10.6% 11.2% 11.2% 12.3% 13.4% 14.5%

Massachusetts Appetizers

Soup

14.8% of top appetizer sales in Massachusetts

Foie Gras

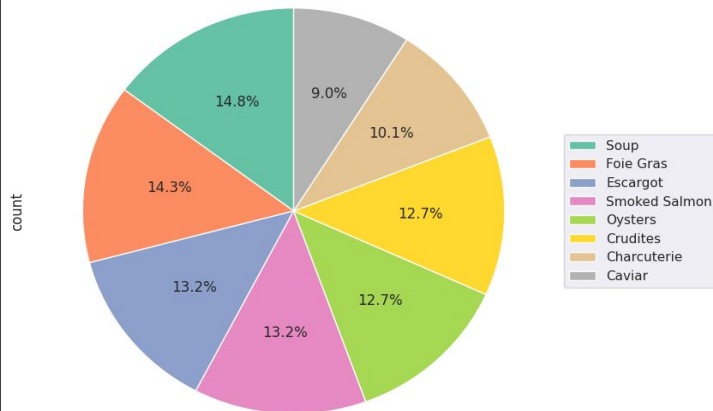14.3% of top appetizer sales in Massachusetts

Escargot

13.2% of top appetizer sales in Massachusetts

Smoked Salmon

13.2% of top appetizer sales in Massachusetts

Massachusetts Appetizer Sales

- Soup
- Foie Gras
- Escargot
- Smoked Salmon
- Oysters
- Crudites
- Charcuterie
- Caviar

14.8% — 9.0% — 10.1% — 12.7% — 14.3% — 13.2% — 13.2% — 12.7%

Massachusetts Entrees

Pork

15.1% of top entree sales in Massachusetts

Steak

15.1% of top entree sales in Massachusetts

Duck

14% of top entree sales in Massachusetts

Pasta

12.9% of top entree sales in Massachusetts
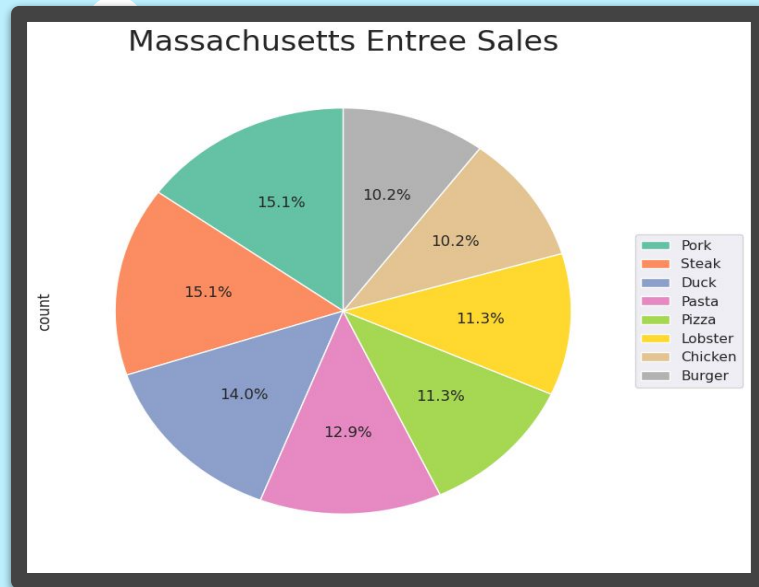
Massachusetts Desserts

Pudding
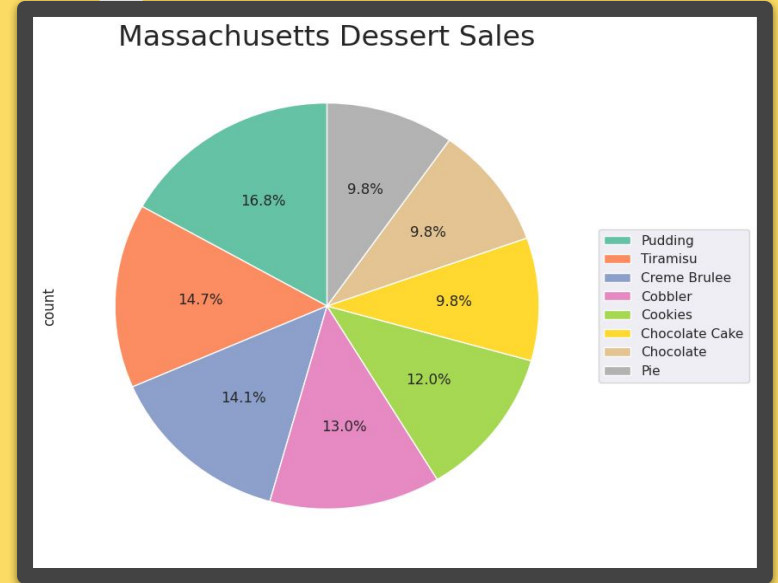
16.8% of top dessert sales in Massachusetts

Tiramisu

14.7% of top dessert sales in Massachusetts

Creme Brulee

14.1% of top dessert sales in Massachusetts

Cobbler
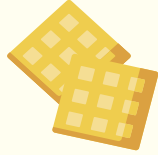
13% of top dessert sales in Massachusetts

Massachusetts Dessert Sales

Legend	
Pudding	16.8%
Tiramisu	14.7%
Creme Brulee	14.1%
Cobbler	13.0%
Cookies	12.0%
Chocolate Cake	9.8%
Chocolate	9.8%
Pie	9.8%

Massachusetts Menu

Port
Bellini
Aperol Spritz
Campari & Soda

Aperitifs

Soup
Foie Gras
Escargot
Smoked Salmon

Appetizers

Pork
Steak
Duck
Pasta

Entrees

Pudding
Tiramisu
Creme Brulee
Cobbler

Desserts

Illinois Aperitifs

Sherry
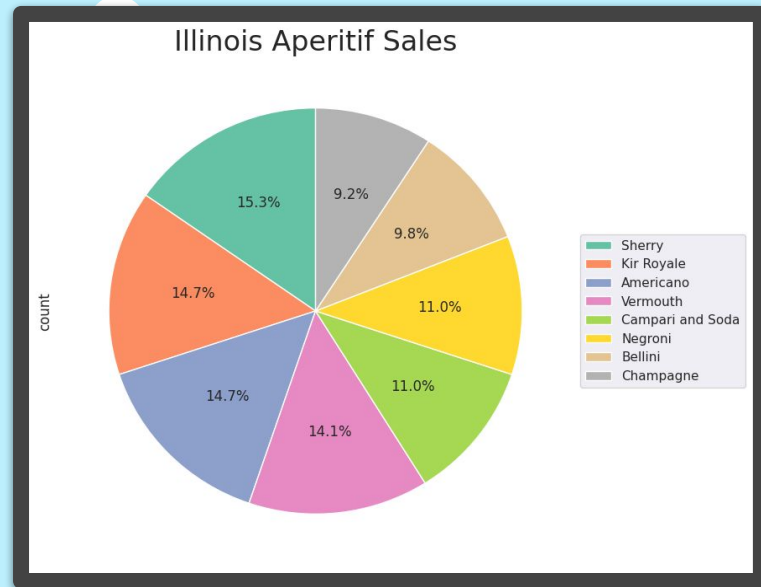
15.3% of top aperitif sales in Illinois

Kir Royale

14.7% of top aperitif sales in Illinois

Americano

14.7% of top aperitif sales in Illinois

Vermouth

14.1% of top sales in Illinois

Illinois Aperitif Sales

- Sherry — 15.3%
- Kir Royale — 14.7%
- Americano — 14.7%
- Vermouth — 14.1%
- Campari and Soda — 11.0%
- Negroni — 11.0%
- Bellini — 9.8%
- Champagne — 9.2%

Illinois Appetizers

Salad

15.1% of top appetizer sales in Illinois

Charcuterie

14.5% of top appetizer sales in Illinois

Foie Gras

13.9% of top appetizer sales in illinois

Soup

12.7% of top appetizer sales in Illinois

Illinois Appetizer Sales

count

- Salad — 15.1%
- Charcuterie — 14.5%
- Foie Gras — 13.9%
- Soup — 12.7%
- Pate — 12.0%
- Oysters — 12.0%
- Escargot — 10.2%
- Smoked Salmon — 9.6%
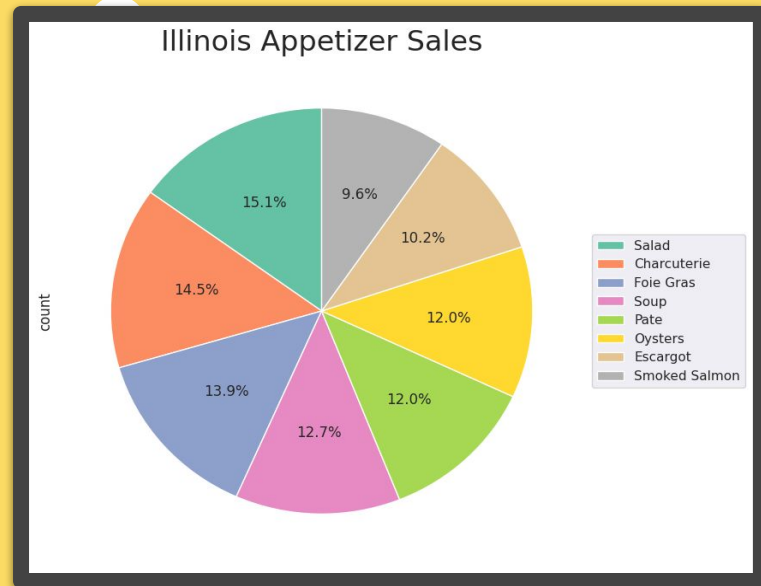
Illinois Entrees

Steak

16.7% of top entree sales in Illinois

Park

16% of top entree sales in Illinois

Pasta

13% of top entree sales in Illinois

Duck

12.3% of top entree sales in Illinois
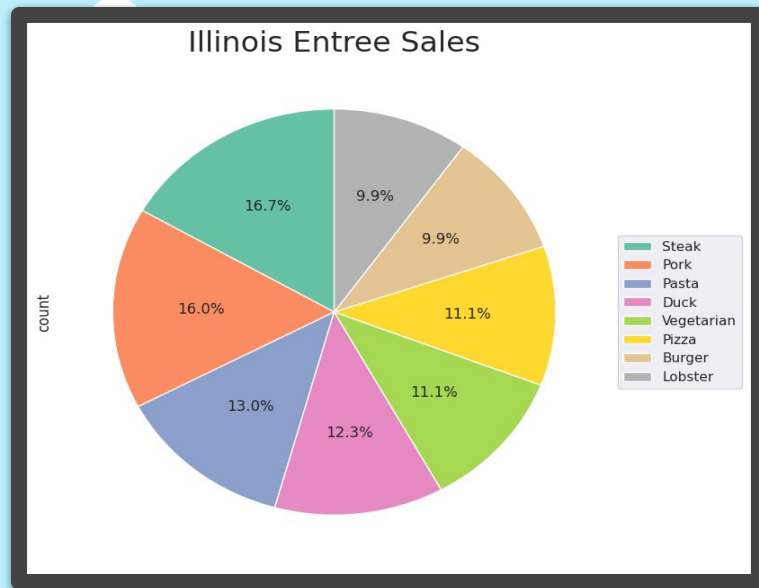
Illinois Entree Sales
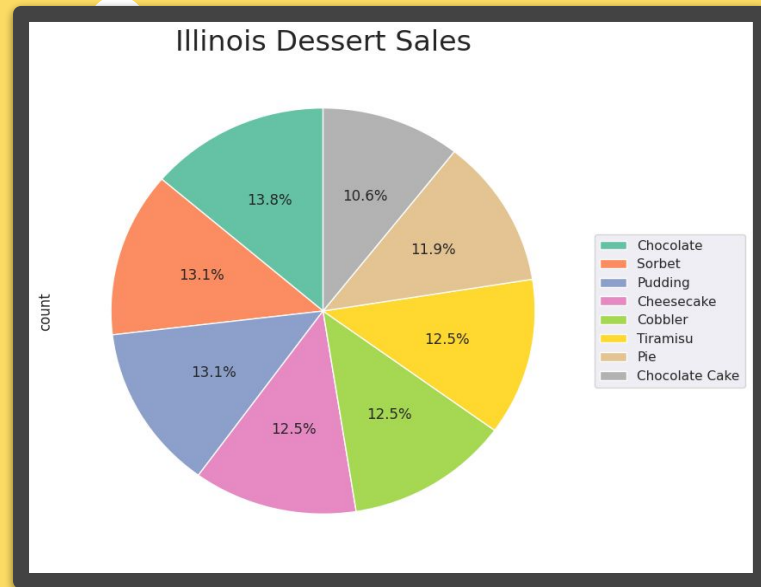
Illinois Menu

Aperitifs
Sheri
Kir Royale
Americano
Vermouth
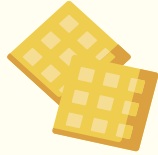
Appetizers
Salad
Charcuterie
Foie Gras
Soup

Entrees
Steak
Pork
Pasta
Duck

Desserts
Chocolate
Sorbet
Pudding
Cheesecake

$1,000,000

Now that we have our $1M plan, how can we ensure a profitable roll out in our new locations?

Online advertising

Promoting your custom menu online is a great way to bring existing customers into the new restaurants.

Promotional Offers on popular items

Incentivise customers to purchase more of the items they already love by offering a sweet treat with purchase.

Al Dente's Grand Opening!

Enjoy a free pudding or creme brulee when you purchase an appetizer and entree

Al Dente's Grand Opening!

Free meals for first 20 customers!

Offering free meals on opening day is a great way to introduce your food to new customers in the area

Feature: User Interface

```
Username: root
Password:

Select an option:
1. View Statistics
2. Import data from CSV Files
3. Exit
```

Showcase for Database Setup