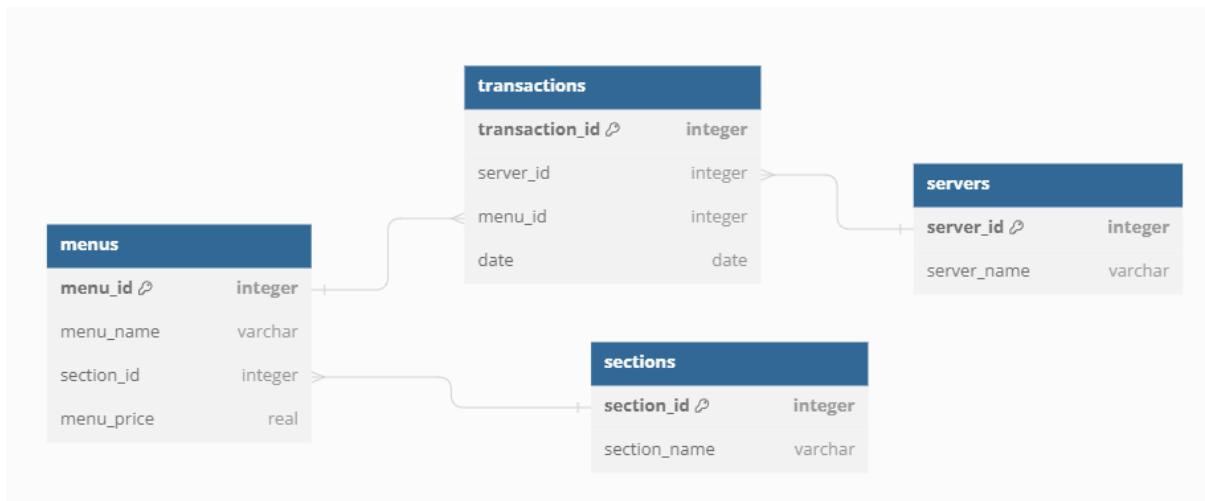




# Restaurant Project

## Design data layout



## Create Tables & Insert Data

### Menus Table

```
-- Create Restaurant Database
-- (menus, sections, servers, transactions tables)
-- Create menus table
```

```
Create table if not exists menus
(menu_id int unique,
menu_name text,
section_id int,
menu_price real
);
```

```
insert into menus values
(1, 'edamame', 1, 5.50),
(2, 'crab wonton', 1, 6.95),
(3, 'shrimp tempura', 1, 11.95),
(4, 'volcano shrimp', 1, 11.50),
(5, 'california roll', 2, 6.50),
(6, 'alaska roll', 2, 7.50),
(7, 'sunset roll', 2, 16.95),
(8, 'infinity roll', 2, 17.50),
(9, 'dragon roll', 2, 14.50),
(10, 'hibachi chicken', 1, 17.95),
(11, 'hibachi steak', 1, 24.00),
(12, 'hibachi salmon', 1, 22.50),
(13, 'udon chicken', 1, 13.00),
(14, 'pad thai chicken', 1, 13.00),
(15, 'mojito', 3, 12.50),
(16, 'martini', 3, 12.50),
(17, 'bourbon', 3, 13.00),
(18, 'gin', 3, 13.00),
(19, 'vodka', 3, 12.00),
(20, 'whisky', 3, 13.00);
```

Menus	menu_id (int)	menu_name (text)	section_id (int)	menu_price (real)
1	edamame		1	5.50
2	crab wonton		1	6.95
3	shrimp tempura		1	11.95
4	volcano shrimp		1	11.50
5	california roll		2	6.50
6	alaska roll		2	7.50
7	sunset roll		2	16.95
8	infinity roll		2	17.50
9	dragon roll		2	14.50
10	hibachi chicken		1	17.95
11	hibachi steak		1	24.00
12	hibachi salmon		1	22.50
13	udon chicken		1	13.00
14	pad thai chicken		1	13.00
15	mojito		3	12.50
16	martini		3	12.50
17	bourbon		3	13.00
18	gin		3	13.00
19	vodka		3	12.00
20	whisky		3	13.00

## Servers Table

```
-- Create servers table
Create table if not exists servers
(server_id int unique,
```

```
server_name text  
);
```

```
INSERT INTO servers VALUES  
(1, 'Sun'),  
(2, 'Star'),  
(3, 'Pluto');
```

Server	
server_id (int unique)	server_name (text)
1	Sun
2	Star
3	Pluto

## Sections Table

```
-- Create sections table  
Create table if not exists sections  
(section_id int unique,  
section_name text  
);
```

```
INSERT INTO sections VALUES  
(1, 'hot kichen'),  
(2, 'sushi'),  
(3, 'bartender');
```

Section	
section_id (int unique)	section_name (text)
1	hot kichen
2	sushi
3	bartender

## Transactions Table

```
Create table if not exists transactions  
(transaction_id int,  
server_id int,  
menu_id int,  
date date  
);
```

```

INSERT INTO transactions VALUES
(1, 1, 1, '2022-08-01'),
(1, 1, 1, '2022-08-01'),
(1, 1, 2, '2022-08-01'),
(1, 1, 6, '2022-08-01'),
(1, 1, 9, '2022-08-01'),
(1, 1, 9, '2022-08-01'),
(1, 1, 13, '2022-08-01'),
(1, 1, 11, '2022-08-01'),
(1, 1, 16, '2022-08-01'),
(1, 1, 17, '2022-08-01'),
(1, 1, 20, '2022-08-01'),
(1, 1, 10, '2022-08-01'),

(2, 2, 4, '2022-08-01'),
(2, 2, 1, '2022-08-01'),
(2, 2, 7, '2022-08-01'),
(2, 2, 9, '2022-08-01'),
(2, 2, 10, '2022-08-01'),
(2, 2, 11, '2022-08-01'),
(2, 2, 11, '2022-08-01'),
(2, 2, 15, '2022-08-01'),
(2, 2, 15, '2022-08-01'),
(2, 2, 19, '2022-08-01'),

(3, 3, 3, '2022-08-01'),
(3, 3, 2, '2022-08-01'),
(3, 3, 2, '2022-08-01'),
(3, 3, 5, '2022-08-01'),
(3, 3, 5, '2022-08-01'),
(3, 3, 5, '2022-08-01'),
(3, 3, 5, '2022-08-01'),
(3, 3, 7, '2022-08-01'),
(3, 3, 7, '2022-08-01'),
(3, 3, 12, '2022-08-01'),
(3, 3, 13, '2022-08-01'),
(3, 3, 18, '2022-08-01'),

```

Transactions			
transaction_id (int)	server_id (int)	menu_id (int)	date (date)
1	1	1	8-1-2022
1	1	1	8-1-2022
1	1	2	8-1-2022
1	1	6	8-1-2022
1	1	9	8-1-2022
1	1	9	8-1-2022
1	1	13	8-1-2022
1	1	11	8-1-2022
1	1	16	8-1-2022
1	1	17	8-1-2022
1	1	20	8-1-2022
1	1	10	8-1-2022
2	2	4	8-1-2022
2	2	1	8-1-2022
2	2	7	8-1-2022
2	2	9	8-1-2022
2	2	10	8-1-2022
2	2	11	8-1-2022
2	2	11	8-1-2022
2	2	15	8-1-2022
2	2	15	8-1-2022
2	2	19	8-1-2022
3	3	3	8-1-2022
3	3	2	8-1-2022
3	3	2	8-1-2022
3	3	5	8-1-2022
3	3	5	8-1-2022
3	3	5	8-1-2022
3	3	5	8-1-2022
3	3	7	8-1-2022

```

(3, 3, 17, '2022-08-01'),
(3, 3, 20, '2022-08-01'),

(4, 1, 3, '2022-08-02'),
(4, 1, 3, '2022-08-02'),
(4, 1, 5, '2022-08-02'),
(4, 1, 5, '2022-08-02'),
(4, 1, 8, '2022-08-02'),
(4, 1, 12, '2022-08-02'),
(4, 1, 14, '2022-08-02'),
(4, 1, 16, '2022-08-02'),
(4, 1, 19, '2022-08-02'),

(5, 2, 1, '2022-08-02'),
(5, 2, 1, '2022-08-02'),
(5, 2, 4, '2022-08-02'),
(5, 2, 7, '2022-08-02'),
(5, 2, 8, '2022-08-02'),
(5, 2, 8, '2022-08-02'),
(5, 2, 13, '2022-08-02'),
(5, 2, 14, '2022-08-02'),
(5, 2, 15, '2022-08-02'),
(5, 2, 15, '2022-08-02'),

(6, 3, 4, '2022-08-02'),
(6, 3, 3, '2022-08-02'),
(6, 3, 6, '2022-08-02'),
(6, 3, 6, '2022-08-02'),
(6, 3, 7, '2022-08-02'),
(6, 3, 7, '2022-08-02'),
(6, 3, 8, '2022-08-02'),
(6, 3, 9, '2022-08-02'),
(6, 3, 10, '2022-08-02'),
(6, 3, 13, '2022-08-02'),
(6, 3, 20, '2022-08-02'),
(6, 3, 18, '2022-08-02'),
(6, 3, 15, '2022-08-02');

```

3	3	7	8-1-2022
3	3	12	8-1-2022
3	3	13	8-1-2022
3	3	18	8-1-2022
3	3	17	8-1-2022
3	3	20	8-1-2022
4	1	3	8-2-2022
4	1	3	8-2-2022
4	1	5	8-2-2022
4	1	5	8-2-2022
4	1	8	8-2-2022
4	1	12	8-2-2022
4	1	14	8-2-2022
4	1	16	8-2-2022
4	1	19	8-2-2022
5	2	1	8-2-2022
5	2	1	8-2-2022
5	2	4	8-2-2022
5	2	7	8-2-2022
5	2	8	8-2-2022
5	2	8	8-2-2022
5	2	13	8-2-2022
5	2	14	8-2-2022
5	2	15	8-2-2022
5	2	15	8-2-2022
6	3	4	8-2-2022
6	3	3	8-2-2022
6	3	6	8-2-2022
6	3	6	8-2-2022

6	3	7	8-2-2022
6	3	7	8-2-2022
6	3	8	8-2-2022
6	3	9	8-2-2022
6	3	10	8-2-2022
6	3	13	8-2-2022
6	3	20	8-2-2022
6	3	18	8-2-2022
6	3	15	8-2-2022

## Create Full Data

```
--Filtering Data
--Create Full Data for summarizing a sale, (View, Join tables
CREATE VIEW if not exists full_data AS
select
    a.transaction_id,
    c.server_name,
    b.menu_name,
    b.menu_price,
    d.section_name,
    a.date
from transactions a, menus b, servers c, sections d
where a.menu_id = b.menu_id
    and a.server_id = c.server_id
    and b.section_id = d.section_id;

select * from full_data
```

Full Data					
transaction_id (int)	server_name (text)	menu_name (text)	menu_price (real)	section_name (text)	date (date)
1	Sun	edamame	5.5	hot kichen	8-1-2022
1	Sun	edamame	5.5	hot kichen	8-1-2022
1	Sun	crab wonton	6.95	hot kichen	8-1-2022
1	Sun	alaska roll	7.5	sushi	8-1-2022
1	Sun	dragon roll	14.5	sushi	8-1-2022
1	Sun	dragon roll	14.5	sushi	8-1-2022
1	Sun	udon chicken	13	hot kichen	8-1-2022
1	Sun	hibachi steak	24	hot kichen	8-1-2022
1	Sun	martini	12.5	bartender	8-1-2022
1	Sun	bourbon	13	bartender	8-1-2022
1	Sun	whisky	13	bartender	8-1-2022
1	Sun	hibachi chicken	17.95	hot kichen	8-1-2022
2	Star	volcano shrimp	11.5	hot kichen	8-1-2022
2	Star	edamame	5.5	hot kichen	8-1-2022
2	Star	sunset roll	16.95	sushi	8-1-2022
2	Star	dragon roll	14.5	sushi	8-1-2022
2	Star	hibachi chicken	17.95	hot kichen	8-1-2022
2	Star	hibachi steak	24	hot kichen	8-1-2022
2	Star	hibachi steak	24	hot kichen	8-1-2022
2	Star	mojito	12.5	bartender	8-1-2022
2	Star	mojito	12.5	bartender	8-1-2022
2	Star	vodka	12	bartender	8-1-2022
3	Pluto	shrimp tempura	11.95	hot kichen	8-1-2022
3	Pluto	crab wonton	6.95	hot kichen	8-1-2022
3	Pluto	crab wonton	6.95	hot kichen	8-1-2022
3	Pluto	california roll	6.5	sushi	8-1-2022
3	Pluto	california roll	6.5	sushi	8-1-2022
3	Pluto	california roll	6.5	sushi	8-1-2022
3	Pluto	california roll	6.5	sushi	8-1-2022
3	Pluto	sunset roll	16.95	sushi	8-1-2022

	3	Pluto	sunset roll	16.95	sushi	8-1-2022
	3	Pluto	hibachi salmon	22.5	hot kichen	8-1-2022
	3	Pluto	udon chicken	13	hot kichen	8-1-2022
	3	Pluto	gin	13	bartender	8-1-2022
	3	Pluto	bourbon	13	bartender	8-1-2022
	3	Pluto	whisky	13	bartender	8-1-2022
	4	Sun	shrimp tempura	11.95	hot kichen	8-2-2022
	4	Sun	shrimp tempura	11.95	hot kichen	8-2-2022
	4	Sun	califonia roll	6.5	sushi	8-2-2022
	4	Sun	califonia roll	6.5	sushi	8-2-2022
	4	Sun	infinity roll	17.5	sushi	8-2-2022
	4	Sun	hibachi salmon	22.5	hot kichen	8-2-2022
	4	Sun	pad thai chicken	13	hot kichen	8-2-2022
	4	Sun	martini	12.5	bartender	8-2-2022
	4	Sun	vodka	12	bartender	8-2-2022
	5	Star	edamame	5.5	hot kichen	8-2-2022
	5	Star	edamame	5.5	hot kichen	8-2-2022
	5	Star	volcano shrimp	11.5	hot kichen	8-2-2022
	5	Star	sunset roll	16.95	sushi	8-2-2022
	5	Star	infinity roll	17.5	sushi	8-2-2022
	5	Star	infinity roll	17.5	sushi	8-2-2022
	5	Star	udon chicken	13	hot kichen	8-2-2022
	5	Star	pad thai chicken	13	hot kichen	8-2-2022
	5	Star	mojito	12.5	bartender	8-2-2022
	5	Star	mojito	12.5	bartender	8-2-2022
	6	Pluto	volcano shrimp	11.5	hot kichen	8-2-2022
	6	Pluto	shrimp tempura	11.95	hot kichen	8-2-2022
	6	Pluto	alaska roll	7.5	sushi	8-2-2022
	6	Pluto	alaska roll	7.5	sushi	8-2-2022
	6	Pluto	sunset roll	16.95	sushi	8-2-2022

	6	Pluto	sunset roll	16.95	sushi	8-2-2022
	6	Pluto	infinity roll	17.5	sushi	8-2-2022
	6	Pluto	dragon roll	14.5	sushi	8-2-2022
	6	Pluto	hibachi chicken	17.95	hot kichen	8-2-2022
	6	Pluto	udon chicken	13	hot kichen	8-2-2022
	6	Pluto	whisky	13	bartender	8-2-2022
	6	Pluto	gin	13	bartender	8-2-2022
	6	Pluto	mojito	12.5	bartender	8-2-2022

## Sale Summarizing

### 1. Who has the most sale on 02/08/2022?

```
.mode column
select
    server_name,
    sum(menu_price) as sale
from full_data
where date = '2022-08-02'
group by server_name
order by 2 desc;
```

Who has the most sale on 02/08/2022?	
server_name	sale
Pluto	173.8
Star	125.45
Sun	114.4

## 2. Which food is the most popular on 02/08/2022?

```
select
    menu_name,
    count(*) as count
from full_data
where date = '2022-08-02'
group by menu_name
order by 2 desc
limit 3;
```

Which food is the most popular on 02/08/2022?	
menu_name	count
infinity roll	4
sunset roll	3
shrimp tempura	3

## 3. The average sale on 02/08/2022 -- (Sub query)

```
select
    avg(sale)
from (
    select
        server_name,
        sum(menu_price) as sal
    from full_data
    where date = '2022-08-02'
    group by server_name);
```

avg(sale)
137.88333333

## 4. All of the sale product will be deducted 2% for each section as a tip -- (With, common table expression +

## Aggregate function)

```
with
  a as (select * from menus, sections
         where menus.section_id = sections.section_id),
  b as (
    select * from transactions
    where date = '2022-08-02')
select
  section_name,
  sum(menu_price) as profit,
  sum(menu_price) * 0.02 as tip
from b
join a
  on b.menu_id = a.menu_id
group by section_name;
```

Section	section_name (text)	profit	tip
bartender		88	1.76
hot kichen		162.3	3.246000004
sushi		163.35	3.267