iPhone commerce DBMS (Phase 5) GUI

Functionalities

Note: Black background screenshots are from python console. White Background screenshots are from Jupyter Notebook (Used for better display of outputs).

A. Should be able to show the contents of at least 1 relation.

Displaying the contents of 3 tables.

3 relations are displayed.

- ***F21_S001_2_iPhone_model***
- ***F21_S001_2_Order***
- ***F21_S001_2_Outlet***

Step 1: Enter '2' (Display relations).

```
x----------------------iPhone Commerce DBMS-----------------------X


Welcome!

Please select one of the following:
1). Refresh database. (May take a while)
2). Display relations.
3). Modify relations.
4). Generate reports.
5). Finish up.
```

Step 2: Enter '1', '2' or '3' as per requirement.

```
        1). iPhone model table.
        2). Order table.
        3). Outlet table.
        4). Go back to the previous menu.
```

Results:

- ***F21_S001_2_iPhone_model***

	iPhone model	Battery	Processor	Camera
1	iPhone X	2716 mAH	A11 Bionic Chip	7MP
2	iPhone 11	3110 mAH	A13 Bionic Chip	12MP
3	iPhone 11 Pro	3550 mAH	A13 Bionic Chip	12MP
4	iPhone 12	2775 mAH	A14 Bionic Chip	13MP
5	iPhone 12 Pro	2815 mAH	A14 Bionic Chip	14MP
6	iPhone 13	3227 mAH	A15 Bionic Chip	15MP
7	iPhone 13 Pro	3095 mAH	A15 Bionic Chip	16MP

- ***F21_S001_2_Order***

	Order ID	Order Date	Order Total	...	Source of Info	iPhone ID	Customer ID
1	O1452291	2019-12-10	849	...	Newspaper	26733816	C7817780
2	O6789644	2021-06-25	634	...	Commercial	60297638	C4283018
3	O4605630	2021-07-22	870	...	Promotion email	39847318	C6128925
4	O6508466	2021-04-08	1034	...	Commercial	29253456	C1653887
5	O5226654	2021-11-08	999	...	Social Media	46266128	C9398052
..	...	...	...	...	...	...	...
496	O8417617	2021-07-22	530	...	Social Media	77135440	C6787951
497	O9169986	2021-10-25	949	...	Social Media	99851347	C1305276
498	O7800753	2019-10-28	775	...	Promotion email	15627976	C7794412
499	O4553563	2020-06-26	530	...	Commercial	29053700	C9268828
500	O5706549	2021-11-06	571	...	Newspaper	62343926	C5439508

[500 rows x 7 columns]

- ***F21_S001_2_Outlet***

	Outlet ID	City	State
1	WTXAR001	Texas	Arlington
2	WNWNW002	New York	New York
3	WCALA003	Los Angeles	California
4	WILCH004	Chicago	Illinois
5	WTXHU005	Houston	Texas
6	WARPH006	Phoenix	Arizona
7	WPNPH007	Philadelphia	Pennsylvania
8	WTXSA008	San Antonio	Texas
9	WCASD009	San Diego	California
10	WTXDA010	Dallas	Texas
11	WCASJ011	San Jose	California
12	WFLJV012	Jacksonville	Florida
13	WOHCL013	Columbus	Ohio
14	WNCCH014	Charlotte	North Carolina
15	WCASF015	San Francisco	California
16	WWASE016	Seattle	Washington
17	WCODN017	Denver	Colorado
18	WMABO018	Boston	Massachusetts
19	WTENA019	Nashville	Tennessee
20	WNVLV020	Las Vegas	Nevada
21	STXAR001	Texas	Arlington
22	SNWNW002	New York	New York
23	SCALA003	Los Angeles	California
24	SILCH004	Chicago	Illinois
25	STXHU005	Houston	Texas
26	SARPH006	Phoenix	Arizona
27	SPNPH007	Philadelphia	Pennsylvania
28	STXSA008	San Antonio	Texas
29	SCASD009	San Diego	California
30	STXDA010	Dallas	Texas
31	SCASJ011	San Jose	California
32	SFLJV012	Jacksonville	Florida
33	SOHCL013	Columbus	Ohio
34	SNCCH014	Charlotte	North Carolina
35	SCASF015	San Francisco	California
36	SWASE016	Seattle	Washington
37	SCODN017	Denver	Colorado
38	SMABO018	Boston	Massachusetts
39	STENA019	Nashville	Tennessee
40	SNVLV020	Las Vegas	Nevada

B. Should be able to modify at least 1 relation from the front-end and show the contents of that modified relation. This modification can be an insert/update/delete.

Step 1: Enter option 3.

```
x----------------------iPhone Commerce DBMS----------------------X


Welcome!

Please select one of the following:
1). Refresh database. (May take a while)
2). Display relations.
3). Modify relations.
4). Generate reports.
5). Finish up.
```

Step 2: Enter option 1 for demonstrating 'Insert' operation.

```
1). Insert record in Outlet table.
2). Modify an Order table record.
3). Go back to the previous menu.
```

Step 3: Enter the outlet id starting with 'W' or 'S'. Enter the city and state.

```
Enter the outlet id of the outlet: WTXWA021

Enter the City of the outlet: Waxahachie

Enter the State of the outlet: Texas
Record inserted successfully.
```

Step 4: Check if the record is inserted by going to the main menu option 2. Then option 3 on the next menu.

Step 2: Enter option 2 for demonstrating 'Update' operation.

```
1). Insert record in Outlet table.
2). Modify an Order table record.
3). Go back to the previous menu.
```

Step 3: Enter an order id from the order relation. A valid order is given in the below screenshot.

```
Please enter the Order ID: O6344208
```

Step 4: Choose one of the options as per requirements.

```
Please choose one of the following:
        1). Update the order price
        2). Update the order type
        3). Update the source through which the customer came to know about the product
```

a. Enter option 1. Enter a valid order price greater than 699 and less than 1300.

```
Please enter the order price: 1099
```

Result:

```
Updated successfully.
```

	Order ID	Order Date	Order Total	Order Type	Source of Info	iPhone ID	Customer ID
0	O6344208	2021-05-23	1099	In-Person	Commercial	66963739	C4813523

b. Enter option 2. Enter a valid value for order type.

```
Please enter the order type (Online or In-Person): Online
```

Result:

```
Updated successfully.
```

	Order ID	Order Date	Order Total	Order Type	Source of Info	iPhone ID	Customer ID
0	O6344208	2021-05-23	1099	Online	Commercial	66963739	C4813523

c. Enter option 3. Enter a valid value for source of product info. Valid values are given below.
   a. Social Media
   b. Commercial
   c. Promotion email
   d. Newspaper

```
Please enter the source through which the customer came to know about the product: Social Media
```

Result:

```
Updated successfully.
```

	Order ID	Order Date	Order Total	Order Type	Source of Info	iPhone ID	Customer ID
0	O6344208	2021-05-23	1099	Online	Social Media	66963739	C4813523

C. Should be able to generate reports using parameters from the front-end. That is, the team should demonstrate the use of various dynamic SQL queries including aggregates, HAVING clause, GROUP BY, and ORDER BY, CUBE, ROLLUP clauses. At least 2 different queries required satisfying different business goals. These can be the parameterized versions of the queries written for Phase 4.

Business Rule 1:

Step 1: Enter option 1.

```
1). Get information regarding quantity of each model sold and expenses report of a model and it's counterpart.
2). Get information regarding best performing Store or Warehouse.
3). Compare 2 models and it's sales across all cities.
4). Go back to the previous menu.
```

Step 2: Enter the model name from one of the following: -

a. iPhone X
b. iPhone 11
c. iPhone 12
d. iPhone 13

```
Enter the model name: iPhone 13
```

Result:

	Model Name	Selling Price	Products sold	Manufacturing Price	Total Profit
Total	None	159927	161	133199	26728
1	iPhone 13 Pro	100623	93	80221	20402
2	iPhone 13	59304	68	52978	6326

Business Rule 2:

Step 1: Enter option 2.

```
1). Get information regarding quantity of each model sold and expenses report of a model and it's counterpart.
2). Get information regarding best performing Store or Warehouse.
3). Compare 2 models and it's sales across all cities.
4). Go back to the previous menu.
```

Step 2: Enter ‘W’ or ‘S’ for Warehouses or Stores respectively. Anything else will give and an error and ask to try again.

```
Enter the outlet type initial:
W for Warehouses
S for Stores

W
```

```
Enter the outlet type initial:
W for Warehouses
S for Stores

S
```

Results:

Warehouse:

	Outlet ID	Total iPhones sold
1	WPNPH007	22

Store:

	Outlet ID	Total iPhones sold
1	STXDA010	21

Business Rule 3:

Step 1: Enter option 3.

```
1). Get information regarding quantity of each model sold and expenses report of a model and it's counterpart.
2). Get information regarding best performing Store or Warehouse.
3). Compare 2 models and it's sales across all cities.
4). Go back to the previous menu.
```

Step 2: Enter two iPhone models for comparison of sales across cities. (Cube operation)

a. iPhone X
b. iPhone 11
c. iPhone 12
d. iPhone 13

```
Enter the name of 1st model: iPhone 12
Enter the name of 2nd model: iPhone 13
```

Result:

	iPhones sold	iPhone model	City
0	3	iPhone 12	Boston
1	3	iPhone 13	Boston
2	6	None	Boston
3	2	iPhone 12	Charlotte
4	4	iPhone 13	Charlotte
...	...	...	...
57	4	iPhone 13	Texas
58	5	None	Texas
59	68	iPhone 12	None
60	68	iPhone 13	None
61	136	None	None

62 rows × 3 columns

Final Step:

Enter option 5 (Finish Up) from the main menu to close the cursor and connections.

```
x----------------------iPhone Commerce DBMS----------------------X


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```