Database Assignment: Part II

Context: U.S. Census Bureau and Bureau of Economic Analysis periodically releases U.S. International Trade in Goods and Services. You will get to see how much U.S. exported and imported in various goods and services. Is U.S. importing more than it exports? Which products do U.S. export and import the most? Does U.S. run a trade deficit? If so, how big is this? These are some important statistics that student should be familiar with. In doing this analysis you will also run how to store, process, and query data.

Task:
You are given a database called Import_Export. It has four tables – Category, item, time, and fact.

Table specifications (underlined attributes are primary keys)

Category (<u>CategoryID</u>, Category)
CategoryID → Text, Field size 5 (if you enter anything less you should get an error)
Category → Text

Item (<u>ItemID</u>, Item, CategoryID)
ItemID → Text; Field size 4 (if you enter anything less than 4 characters you should be warned)
Item → Text
CategoryID → Text; Field size 5

Time (<u>TimeID</u>, Year, Month)
TimeID → Text; Field size 6
Year → number
Month → Text; Month must be January to December

Fact (<u>**ItemID, TimeID, ImportExport**</u>, Amount)
ItemID, TimeID as defined in other tables
ImportExport → Text;
Amount → number
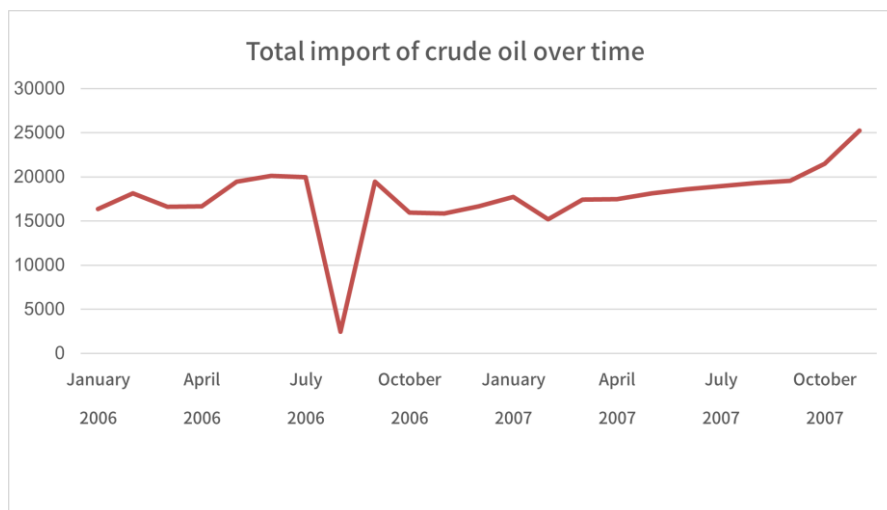
Please execute the following queries

1) What are the total import and export for consumer goods during 2006 and 2007? (create two queries respectively)

·   2006 년 ~ 2007 년 동안 consumer goods의 총 수입량: 867027
·   2006 년 ~ 2007 년 동안 consumer goods의 총 수출량: 263684

1) Total import for consumer goods		1) Total Export for consumer goods	
Category	TotalImport	Category	TotalExport
Consumer goods	867027	Consumer goods	263684

2) How much crude oil did the U.S. import during each of the months in 2006 and 2007? Analyze this result. Is it consistently increasing?

·   Crude oil의 수입량은 증가하고 있지 않다. 수입량이 전반적으로 유지되면서 2006 년 8 월 정도에 급락한적이 있다.

Total import of crude oil over time

2) Import of crude oil over the year and months		
Year	Month	TotalImport
2006	January	16359
2006	February	18114
2006	March	16589
2006	April	16663
2006	May	19432
2006	June	20131
2006	July	19951
2006	August	2459
2006	September	19464
2006	October	15963
2006	November	15867
2006	December	16676
2007	January	17718
2007	February	15205
2007	March	17445
2007	April	17476
2007	May	18145
2007	June	18601
2007	July	18954
2007	August	19326
2007	September	19549
2007	October	21476
2007	November	25223

3) Which are the top 2 **categories** for exports in 2006? Which are the top 2 categories for imports in 2006?

- 2006 년 수출액 Top2 카테고리: Services / Capital goods, except automotive
- 2006 년 수입액 Top2 카테고리: Industrial supplies and materials / Capital goods, except automotive

3) Top2 categories for exports and imports in 2006		
Import/Export	**Category**	**TotalAmt**
Export	Services	422593
Export	Capital goods, except automotive	413910
Import	Industrial supplies and materials	636949
Import	Capital goods, except automotive	452631

4) How much did the U.S. import and export items related to **computers or semiconductors** during each of the months in 2006 and 2007? Analyze the results.

- 전반적으로 computers와 semiconductors 관련된 물품의 경우 수입량이 수출량보다 많다.

4) Import and Export for computers or semiconductors over time			
Year	**Month**	**Import**	**Export**
2006	January	10401	8206
2006	February	10209	7903
2006	March	10976	8191
2006	April	11038	8389
2006	May	10676	8483
2006	June	10379	8781
2006	July	10995	8320
2006	August	7787	8602
2006	September	10981	8343
2006	October	10670	8393
2006	November	10914	8379
2006	December	10399	7883
2007	January	11697	8254
2007	February	11263	7750
2007	March	11006	7497
2007	April	10670	7367
2007	May	10716	7665

2007	June	10808	7878
2007	July	10168	7625
2007	August	10791	7544
2007	September	11093	7800
2007	October	10743	7717
2007	November	10690	7775

5) Which are the top 5 **Items** for imports? Which are the top 5 **items** for exports? What can you conclude about imports and exports?

· 수출량 Top5 물품: Other private services / Automotive vehicles, parts, and engines / Travel / Royalties and license fees / Semiconductors

· 수입량 Top5 물품: Automotive vehicles, parts, and engines / Crude oil / Other private services/Travel/ Pharmaceutical preparations

5) Top5 items for imports and exports		
Import/Export	**Item**	**TotaAmt**
Export	Other private services	380392
Export	Automotive vehicles, parts, and engines	236780
Export	Travel	174695
Export	Royalties and license fees	126700
Export	Semiconductors	97660
Import	Automotive vehicles, parts, and engines	615749
Import	Crude oil	406786
Import	Other private services	227473
Import	Travel	142041
Import	Pharmaceutical preparations	125617

6) Does the U.S. export or import more of agriculture and agriculture-related goods? Analyze the results for 2006.

·   2006 년 농업과 관련된 품목의 경우 수출량이 수입량보다 많다.

6) Import and Export for agriculture-related goods in 2006		
Year	Export	Import
2006	10522	6469

7) What are total exports and imports for goods and services for the year 2006? (All except Services category can be classified under goods).   Does the U.S. import more services than exports? How about for goods?

·   2006 년 goods의 수출량과 수입량: 1057600, 2033457, 수입량이 수출량보다 더 많다.
·   2006 년 services의 수출량과 수입량: 422593, 366727, 수출량이 수입량보다 더 많다.

7) Import and Export for goods and services in 2006		
Services/Goods	Export	Import
goods	1057600	2033457
services	422593	366727

8) For each of the months in 2006 and 2007, compute the total imports and exports. Does U.S. have a trade surplus or deficit? (Note – Use CrossTab Query; That is, Query → crosstab. Here you select TimeID to be Row Heading under Crosstab, and ImportExport as Column Heading. Your amount will be the value under Crosstab. In order to find deficit, use any approach you want. You can run another query on this query to find or import to Excel and compute the difference). Deficit means, U.S. imports more than exports.

· 미국의 수입량은 수출량 보다 항상 많았고, 적자였다.

8) Surplus and deficit over time				
TimeID	Import	Export	Profit	Surplus/Deficit
200601	199352	117931	-81421	deficit
200602	195117	116425	-78692	deficit
200603	195650	119119	-76531	deficit
200604	182596	118643	-63953	deficit
200605	200574	122280	-78294	deficit
200606	203299	124116	-79183	deficit
200607	206674	122913	-83761	deficit
200608	211600	126125	-85475	deficit
200609	207686	125391	-82295	deficit
200610	203354	128612	-74742	deficit
200611	204367	130136	-74231	deficit
200612	189915	128502	-61413	deficit
200701	188946	129169	-59777	deficit
200702	185541	126542	-58999	deficit
200703	192503	129442	-63061	deficit
200704	190430	130951	-59479	deficit
200705	195419	133770	-61649	deficit
200706	196092	135690	-60402	deficit
200707	199682	139068	-60614	deficit
200708	199289	140317	-58972	deficit
200709	199731	141188	-58543	deficit
200710	202101	142947	-59154	deficit
200711	208351	143745	-64606	deficit

9) For the year 2006, find all items imported that has an amount greater than the maximum export amount for any time in 2006.

- 2006 년 최대 수출량 보다 더 많이 수입했던 품목들은

  Automotive vehicles, parts, and engines / Crude oil / Iron and steel products, n.e.c. / Materials handling equipment 이다.

9) Items greater than the maximum export in 2006
Item
Automotive vehicles, parts, and engines
Crude oil
Iron and steel products, n.e.c.
Materials handling equipment