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# **Exercises**

## **Level 5: Modifying Data**

***Note: For all SQL homeworks, just paste your code under the question in the Word document. No images or proof of output are necessary. Please make your answers bold and blue.***

Sample Question: How would you select all position ids from table TRADE\_DATA\_HIST?

A: **SELECT POSITION\_ID FROM DBO.TRADE\_DATA\_HIST**

### **5.1: DELETE**

1. Create a new test table with just two columns (doesn’t matter what they are). Load it with a few rows of data. Delete the entire table.

**CREATE TABLE dbo.test\_table\_01(**

**COB\_DATE INT(10) NOT NULL,**

**POSITION\_ID TEXT (50) NOT NULL);**

**INSERT INTO DBO.test\_table\_01(COB\_DATE,POSITION\_ID)**

**SELECT COB\_DATE,POSITION\_ID**

**FROM DBO.trade\_data\_hist**

**ORDER BY**

**COB\_DATE DESC**

**LIMIT 10;**

**Delete from DBO.test\_table\_01**

1. Delete the entire contents of your TEST\_TRADES table from last homework. Reload the table with the first five days of data. Select all the data, makes sure it’s all there.

**Delete from DBO.test\_trades;**

**INSERT INTO DBO.test\_trades(COB\_DATE,POSITION\_ID,CUSIP,TRADER\_ID,FUND\_ID,QUANTITY,NOTIONAL\_USD,SCHEDULE,MATURITY\_DATE)**

**SELECT COB\_DATE,POSITION\_ID,CUSIP,EMPLOYEE\_ID,FUND\_ID,QUANTITY,NOTIONAL\_USD,SCHEDULE,MATURITY\_DATE**

**FROM DBO.trade\_data\_hist**

**WHERE COB\_DATE <=20180106**

**ORDER BY**

**COB\_DATE ASC;**

**Select \* from DBO.test\_trades**

Now delete all of the data from the first day of the table. Here the tricky part: DO NOT actually type out the date. Have your code figure out what the first day is.

**DELETE FROM DBO.test\_trades**

**WHERE COB\_DATE IN ((SELECT MIN(COB\_DATE) FROM DBO.trade\_data\_hist))**

1. Delete all rows where quantity < 1000.

**DELETE FROM DBO.test\_trades**

**WHERE QUANTITY<1000**

1. What is an orphaned record and how can we avoid it?

**An orphaned record is a record whose foreign key value references a non-existent primary key value. If a row in a related table references a non-existent row in the primary table, it is said to be an orphaned row. This is because it has no “parent” with which its data is associated with. We can always delete the foreign key first, then delete the primary key to avoid it.**

### **5.2: UPDATE**

1. In your TEST\_TRADES table, update all of the traders on the last day of trades to be “T5”. As it turns out you know T5 was the only trader in the office on that day so we want to assign all of the trades to her.

**UPDATE DBO.test\_trades TD**

**SET TD.TRADER\_ID='T5'**

**WHERE COB\_DATE=20180106**

1. Update a ticker in SECURITY\_INFO. Where END\_DATE = 99991231, modify the ticker by changing the END\_DATE to today.

### **UPDATE DBO.security\_info**

### **SET security\_info.END\_DATE=20221221**

### **WHERE**

### **security\_info.TICKER='MMM' AND security\_info.END\_DATE=99991231**

### **5.3: INSERT**

1. Continuing from 5.2.2, now insert a new row in SECURITY\_INFO with the appropriate START and END date that a new dimension entry should have. Change the country on this row (the reason why we had to end the other entry is because the ticker’s country changed.

**INSERT INTO DBO.security\_info(START\_DATE,END\_DATE,CUSIP,INSTRUMENT\_TYPE,DELISTED,TICKER,DESCRIPTION,SECTOR,COUNTRY)**

**VALUES(20221220,99991231,'C491534729','Equity','N','MMM','3M Company','Industrials','NA')**

1. Create a new table called “ACTIVE\_SECURITIES” with the same rows as SECURITY\_INFO. Load all active rows from SECURITY\_INFO into that table.

Note: It would almost certainly be a better idea to create a view called “ACTIVE\_SECURITIES\_V” which simply selects from SECURITY\_INFO where the row is active, but then this exercise wouldn’t be any fun, right? ☺

**The view way:**

**CREATE VIEW DBO.ACTIVE\_SECURITIES\_V AS**

**SELECT**

**DBO.security\_info.START\_DATE AS START\_DATE,**

**DBO.security\_info.END\_DATE AS END\_DATE,**

**DBO.security\_info.CUSIP AS CUSIP,**

**DBO.security\_info.INSTRUMENT\_TYPE AS INSTRUMENT\_TYPE,**

**DBO.security\_info.DELISTED AS DELISTED,**

**DBO.security\_info.TICKER AS TICKER,**

**DBO.security\_info.DESCRIPTION AS DESCRIPTION,**

**DBO.security\_info.SECTOR AS SECTOR,**

**DBO.security\_info.COUNTRY AS COUNTRY**

**FROM**

**DBO.security\_info**

**WHERE DBO.security\_info.END\_DATE=99991231 OR DBO.security\_info.DELISTED='N'**

**The table way:**

**CREATE TABLE dbo.ACTIVE\_SECURITIES(**

**START\_DATE INT(10) NOT NULL,**

**END\_DATE INT(10) NOT NULL,**

**CUSIP TEXT(100) NULL,**

**INSTRUMENT\_TYPE TEXT(10) NOT NULL,**

**DELISTED TEXT(10) NOT NULL,**

**TICKER TEXT(20) NULL,**

**DESCRIPTION TEXT(20) NULL,**

**SECTOR TEXT(45) NULL,**

**COUNTRY TEXT(10) NULL);**

**INSERT INTO DBO.active\_securities(START\_DATE,END\_DATE,CUSIP,INSTRUMENT\_TYPE,DELISTED,TICKER,DESCRIPTION,SECTOR,COUNTRY)**

**SELECT START\_DATE,END\_DATE,CUSIP,INSTRUMENT\_TYPE,DELISTED,TICKER,DESCRIPTION,SECTOR,SECTOR**

**FROM DBO.security\_info**

**WHERE DBO.security\_info.END\_DATE=99991231 OR DBO.security\_info.DELISTED='N'**