**Database ua\_dillards;**

**SELECT sku, COUNT(sku), retail, cost**

**FROM skstinfo**

**GROUP BY sku**

**SELECT sku, retail, cost, COUNT(sku)**

**FROM skstinfo**

**GROUP BY sku, retail, cost**

**HELP TABLE DEPTINFO;**

**HELP TABLE SKSTINFO;**

**HELP TABLE SKSTINFO\_FIX;**

**HELP TABLE SKUINFO;**

**HELP TABLE STORE\_MSA;**

**HELP TABLE STRINFO;**

**HELP TABLE TRNSACT;**

**SHOW TABLE DEPTINFO;**

**SHOW TABLE SKSTINFO;**

**SHOW TABLE SKSTINFO\_FIX;**

**SHOW TABLE SKUINFO;**

**SHOW TABLE STORE\_MSA;**

**SHOW TABLE STRINFO;**

**SHOW TABLE TRNSACT;**

**Exercise 1: (a) Use COUNT and DISTINCT to determine how many distinct skus there are in pairs of the**

**skuinfo, skstinfo, and trnsact tables. Which skus are common to pairs of tables, or unique to specific**

**tables?**

**SELECT COUNT(DISTINCT SKU)**

**FROM SKUINFO;**

**SELECT COUNT(DISTINCT SKU)**

**FROM SKSTINFO;**

**SELECT COUNT(DISTINCT SKU)**

**FROM TRNSACT;**

**(b) Use COUNT to determine how many instances there are of each sku associated with each store in the**

**skstinfo table and the trnsact table?**

**You should see there are multiple instances of every sku/store combination in the trnsact table, but only one**

**instance of every sku/store combination in the skstinfo table. Therefore you could join the trnsact and skstinfo**

**tables, but you would need to join them on both of the following conditions: trnsact.sku= skstinfo.sku AND**

**trnsact.store= skstinfo.store.**

**SELECT COUNT(DISTINCT si.sku)**

**FROM skstinfo st RIGHT JOIN skuinfo si**

**ON st.sku=si.sku**

**WHERE st.sku IS NULL**

**SELECT COUNT(DISTINCT t.sku)**

**FROM skstinfo st RIGHT JOIN trnsact t**

**ON t.sku= st.sku AND t.store= st.store**

**WHERE st.sku IS NULL**

**Exercise 2: (a) Use COUNT and DISTINCT to determine how many distinct stores there are in the**

**strinfo, store\_msa, skstinfo, and trnsact tables.**

**You should see that:**

**# distinct stores in strinfo > # distinct stores in skstinfo > # distinct stores in store\_msa > # distinct**

**stores in trnsact**

**SELECT COUNT(DISTINCT store)**

**FROM strinfo;**

**SELECT COUNT(DISTINCT store)**

**FROM store\_msa;**

**SELECT COUNT(DISTINCT store)**

**FROM trnsact;**

**SELECT COUNT(DISTINCT store)**

**FROM skstinfo;**

**SELECT sku, store, COUNT(\*)AS numrows**

**FROM skstinfo**

**GROUP BY sku,store**

**ORDER BY numrows DESC;**

**SELECT sku, store, COUNT(\*)AS numrows**

**FROM trnsact**

**GROUP BY sku,store**

**ORDER BY numrows DESC;**

**SELECT DISTINCT s.store**

**FROM strinfo s LEFT JOIN store\_msa m**

**ON m.store=s.store**

**LEFT JOIN skstinfo k**

**ON k.store=s.store**

**LEFT JOIN trnsact t**

**ON t.store=s.store**

**WHERE m.store IS NULL AND k.store IS NULL AND t.store IS NULL**

**ORDER BY s.store ASC;**

**3: On what day was Dillard’s income based on total sum of purchases the greatest**

**SELECT saledate, SUM(amt)**

**FROM trnsact**

**GROUP BY saledate**

**ORDER BY SUM(amt) DESC;**

**4.Question 4**

**What is the deptdesc of the departments that have the top 3 greatest numbers of skus from the skuinfo table associated with them?**

**SELECT b.deptdesc, COUNT(DISTINCT a.sku)**

**FROM skuinfo a JOIN deptinfo b**

**ON a.dept = b.dept**

**GROUP BY b.dept**

**ORDER BY COUNT(DISTINCT a.sku) DESC;**

**5.Question 5**

**Which table contains the most distinct sku numbers?**

**SELECT COUNT(DISTINCT sku)**

**FROM skuinfo**

**#1564178**

**SELECT COUNT(DISTINCT sku)**

**FROM trnsact**

**#714499**

**SELECT COUNT(DISTINCT sku)**

**FROM skstinfo**

**#760212**

**6.Question 6**

**How many skus are in the skstinfo table, but NOT in the skuinfo table?**

**SELECT COUNT(DISTINCT a.sku)**

**FROM skstinfo a LEFT JOIN skuinfo b**

**ON a.sku=b.sku**

**WHERE b.sku IS NULL;**

**7.Question 7**

**What is the average amount of profit Dillard’s made per day?**

**SELECT SUM(amt-(cost\*quantity))/ COUNT(DISTINCT saledate) AS avg\_sales**

**FROM trnsact t JOIN skstinfo si**

**ON t.sku=si.sku AND t.store=si.store**

**WHERE stype='P';**

**8. The store\_msa table provides population statistics about the geographic location around a store. Using one query to retrieve your answer, how many MSAs are there within the state of North Carolina (abbreviated “NC”), and within these MSAs, what is the lowest population level (msa\_pop) and highest income level (msa\_income)?**

**SELECT COUNT(DISTINCT msa), MAX(msa\_inocme), MIN(msa\_pop)**

**FROM store\_MSA**

**WHERE state='NC'**

**9.Question 9**

**What department (with department description), brand, style, and color brought in the greatest total amount of sales?**

**SELECT TOP 20 d.deptdesc, s.dept, s.brand, s.style, s.color, SUM(t.AMT) AS tot\_sales**

**FROM trnsact t, skuinfo s, deptinfo d**

**WHERE t.sku=s.sku AND s.dept=d.dept AND t.stype='P'**

**GROUP BY d.deptdesc, s.dept, s.brand, s.style, s.color**

**ORDER BY tot\_sales DESC**

**SELECT d.dept, d.deptdesc, s.brand, s.style, s.color, SUM(t.amt)**

**FROM skuinfo s LEFT JOIN deptinfo d**

**ON s.dept = d.dept**

**LEFT JOIN trnsact t**

**ON s.sku = t.sku**

**WHERE t.stype = 'P'**

**GROUP BY d.dept, d.deptdesc, s.brand, s.style, s.color**

**ORDER BY SUM(t.amt) DESC;**

**10.Question 10**

**How many stores have more than 180,000 distinct skus associated with them in the skstinfo table?**

**SELECT store, COUNT(DISTINCT sku)**

**FROM skstinfo**

**GROUP BY store**

**HAVING COUNT(DISTINCT sku) > 180000;**

**11.**

**Look at the data from all the distinct skus in the “cop” department with a “federal” brand and a “rinse wash” color. You'll see that these skus have the same values in some of the columns, meaning that they have some features in common.**

**In which columns do these skus have different values from one another, meaning that their features differ in the categories represented by the columns? Choose all that apply. Note that you will need more than a single correct selection to answer the question correctly.**

**SELECT a.style, a.size, a.packsize, a.vendor, a.sku**

**FROM skuinfo a JOIN deptinfo b**

**ON a.dept=b.dept**

**WHERE b.deptdesc='cop' AND a.brand='federal' AND a.color='rinse wash'**

**GROUP BY a.sku, a.style, a.size, a.vendor, a.packsize;**

**12.Question 12**

**How many skus are in the skuinfo table, but NOT in the skstinfo table?**

**SELECT COUNT(DISTINCT a.sku)**

**FROM skuinfo a LEFT JOIN skstinfo b**

**ON a.sku=b.sku**

**WHERE b.sku IS NULL;**

**13.Question 13**

**In what city and state is the store that had the greatest total sum of sales?**

**SELECT t.store, s.city, s.state, SUM(amt) AS tot\_sales**

**FROM trnsact t JOIN strinfo s**

**ON t.store=s.store**

**GROUP BY 1, 2, 3**

**ORDER BY tot\_sales DESC;**

**15.How many states have more than 10 Dillards stores in them?**

**SELECT COUNT(\*)**

**FROM strinfo**

**GROUP BY state**

**HAVING COUNT(DISTINCT store) >10**

**16.What is the suggested retail price of all the skus in the “reebok” department with the “skechers” brand and a “wht/saphire” color?**

**SELECT DISTINCT skst.retail, skst.sku**

**FROM skuinfo s JOIN deptinfo d**

**ON s.dept = d.dept**

**JOIN skstinfo skst**

**ON s.sku = skst.sku**

**WHERE d.deptdesc = 'reebok' AND s.brand = 'skechers' AND s.color = 'wht/saphire'**

**GROUP BY skst.retail, skst.sku;**