Complete in Chapter 4 Exercises TAL Distributors page 130, exercises 19 - 23.

Please type the query in the SQL query window of Application Express.  Once query has ran and provided the results in the lower pane, please screen print and place in a word document, and submit to dropbox.

15 points

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| GROUP BY  NOTE: When using GROUP BY clause, the only thing that can be displayed is the control field and group statistics such as subtotals or group count. Think of it as a control break.  NOTE2: You should usually use ORDER BY clause when you have a GROUP BY clause.  SELECT rep\_num, avg(balance)  FROM CUSTOMER  GROUP by rep\_num | For each sales rep, list the rep number and the average balance of the rep’s customers. |
| GROUP BY  SELECT CREDIT\_LIMIT, COUNT(\*)  FROM CUSTOMER  GROUP BY CREDIT\_LIMIT  ORDER BY CREDIT\_LIMIT | List each credit\_limit amount and the number of customers having that credit limit. |
| HAVING  NOTE: HAVING is similar to WHERE but is used for group selection.  SELECT CREDIT\_LIMIT, COUNT(\*)  FROM CUSTOMER  GROUP BY CREDIT\_LIMIT  HAVING COUNT(\*) > 2  ORDER BY CREDIT\_LIMIT | List each credit\_limit amount and the number of customers having that credit limit. Only list the limits held by more than two customers. |
| HAVING vs. WHERE  SELECT CREDIT\_LIMIT, COUNT(\*)  FROM CUSTOMER  WHERE REP\_NUM = '15'  GROUP BY CREDIT\_LIMIT  ORDER BY CREDIT\_LIMIT | List each credit\_limit amount and the number of customers having that credit limit. Only list the limits held by customers of sales rep 15. |
| NULL  INSERT INTO CUSTOMER  VALUES ('924', 'Andrew Venenga', null, null, null, null, 500, 5000, '60') | INSERT a row that contains a null value for the address. |
| SELECT CUSTOMER\_NUM, CUSTOMER\_NAME  FROM CUSTOMER  WHERE STREET IS NULL | List the number and name of each customer with an unknown (null) street value. |
| 19.  SELECT SUM(BALANCE), REP\_NUM  FROM CUSTOMER  GROUP BY REP\_NUM | 19. List the sum of the balances of all customers for each sales rep order and group the results by sales rep number. |
| 20.  SELECT SUM(BALANCE), REP\_NUM  FROM CUSTOMER  GROUP BY REP\_NUM  HAVING SUM(BALANCE) > 5000  ORDER BY REP\_NUM; | 20. List the sum of the balances of all customers for each sales rep but restrict the output to those sales reps for which the sum is more than $5000. Order the results by sales rep number. |
| INSERT | INSERT an item with item number of WU20 and all other columns as null values. |
| 21.  SELECT ITEM\_NUM  FROM ITEM  WHERE DESCRIPTION = 'UNKNOWN' | 21. List the item number of any item with an unknown description. |
| 22. [Critical Thinking]  SELECT ITEM\_NUM, DESCRIPTION  FROM ITEM  WHERE CATEGORY IN  (SELECT CATEGORY  FROM ITEM  WHERE CATEGORY = 'PZL' OR CATEGORY = 'TOY' AND DESCRIPTION LIKE '%SET%'); | 22. List the item number and description of all items that are in the PZL or TOY category and contain the word “Set” in the description. |
| 23. [Critical Thinking]  SELECT ITEM\_NUM, DESCRIPTION, PRICE \*.9 AS DISCOUNTED\_PRICE  FROM ITEM | 23. TAL Distributors is considering discounting the price of all items by 10 percent. List the item number, description, and discounted price for all items. Use DISCOUNTED\_PRICE as the name for the computed column. |