MODERN DATABASE SYSTEMS LAB 5

RETAIL SALES ANALYTICS PART1

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Question 1:

SELECT * FROM sales_data WHERE ROWNUM <= 5;

SELECT * FROM stores_data WHERE ROWNUM <= 5;

SELECT * FROM features_data WHERE ROWNUM <= 5;

```
SQL> SELECT * FROM sales_data WHERE ROWNUM <= 5;

    SALES_ID     STORE_ID    DEPT DATE1              WEEKLY_SALES ISHOLIDAY
----------- ------------ ------- ----------- ---------------- --------------
          1            1       1 05-02-10           24924.5 FALSE
          2            1       1 12-02-10          46039.49 TRUE
          3            1       1 19-02-10          41595.55 FALSE
          4            1       1 26-02-10          19403.54 FALSE
          5            1       1 05-03-10           21827.9 FALSE

SQL> SELECT * FROM stores_data WHERE ROWNUM <= 5;

    STORE_ID TYPE         SIZE1
----------- -------- ----------
          1 A           151315
          2 A           202307
          3 B            37392
          4 A           205863
          5 B            34875
```

```
SQL> SELECT * FROM features_data WHERE ROWNUM <= 5;

  STORE_ID DATE1       TEMPERATURE  FUEL_PRICE  MARKDOWN1  MARKDOWN2  MARKDOWN3  MARKDOWN4  MARKDOWN5         CPI  UNEMPLOYMENT ISHOLIDAY
---------- ---------- ------------ ----------- ---------- ---------- ---------- ---------- ---------- ------------ ------------ ----------
         1 05-02-10         42.31       2.572                                                          211.0963582        8.106 FALSE
         1 12-02-10         38.51       2.548                                                          211.2421698        8.106 TRUE
         1 19-02-10         39.93       2.514                                                          211.2891429        8.106 FALSE
         1 26-02-10         46.63       2.561                                                          211.3196429        8.106 FALSE
         1 05-03-10          46.5       2.625                                                          211.3501429        8.106 FALSE
```

Question 2:

ALTER TABLE sales_data

ADD CONSTRAINT pk_sales_id PRIMARY KEY (SALES_ID);

```
SQL> ALTER TABLE sales_data
  2* ADD CONSTRAINT pk_sales_id PRIMARY KEY (SALES_ID);

Table SALES_DATA altered.
```

ALTER TABLE stores_data
ADD CONSTRAINT pk_store_id PRIMARY KEY (STORE_ID);

```
SQL> ALTER TABLE stores_data
  2* ADD CONSTRAINT pk_store_id PRIMARY KEY (STORE_ID);

Table STORES_DATA altered.
```

ALTER TABLE features_data
ADD CONSTRAINT fk_store_id FOREIGN KEY (STORE_ID)
REFERENCES stores_data(STORE_ID);

```
SQL> ALTER TABLE features_data
  2  ADD CONSTRAINT fk_store_id FOREIGN KEY (STORE_ID)
  3* REFERENCES stores_data(STORE_ID);

Table FEATURES_DATA altered.
```

```
[SQL> desc sales_data

Name              Null?        Type
_____   _____   _____
SALES_ID          NOT NULL     NUMBER(38)
STORE_ID                       NUMBER(38)
DEPT                           NUMBER(38)
DATE1                          DATE
WEEKLY_SALES                   NUMBER(38,2)
ISHOLIDAY                      VARCHAR2(26)
[SQL> desc stores_data

Name           Null?       Type
_____    _____  _____
STORE_ID       NOT NULL    NUMBER(38)
TYPE                       VARCHAR2(26)
SIZE1                      NUMBER(38)
[SQL> desc features_data

Name              Null?      Type
_____   _____   _____
STORE_ID                     NUMBER(38)
DATE1                        DATE
TEMPERATURE                  NUMBER(38,2)
FUEL_PRICE                   NUMBER(38,3)
MARKDOWN1                    NUMBER(38,2)
MARKDOWN2                    NUMBER(38,2)
MARKDOWN3                    NUMBER(38,2)
MARKDOWN4                    NUMBER(38,2)
MARKDOWN5                    NUMBER(38,2)
CPI                          NUMBER(38,7)
UNEMPLOYMENT                 NUMBER(38,3)
ISHOLIDAY                    VARCHAR2(26)
```

Question 3

SELECT *

FROM sales_data

WHERE ISHOLIDAY = 'TRUE'

ORDER BY WEEKLY_SALES DESC

FETCH FIRST 3 ROWS ONLY;

```
SQL> SELECT *
  2  FROM sales_data
  3  WHERE ISHOLIDAY = 'TRUE'
  4  ORDER BY WEEKLY_SALES DESC
  5* FETCH FIRST 3 ROWS ONLY;

   SALES_ID     STORE_ID    DEPT DATE1          WEEKLY_SALES ISHOLIDAY
---------- ----------- ------- ----------- ---------------- -------------
     95374          10      72 26-11-10         693099.36 TRUE
    338014          35      72 25-11-11         649770.18 TRUE
     95426          10      72 25-11-11         630999.19 TRUE
```

SELECT *

FROM sales_data

WHERE STORE_ID = 1

ORDER BY DATE1 ASC

FETCH FIRST 4 ROWS ONLY;

```
SQL> SELECT *
  2  FROM sales_data
  3  WHERE STORE_ID = 1
  4  ORDER BY DATE1 ASC
  5* FETCH FIRST 4 ROWS ONLY;

   SALES_ID     STORE_ID    DEPT DATE1          WEEKLY_SALES ISHOLIDAY
---------- ----------- ------- ----------- ---------------- -------------
         1           1       1 05-02-10           24924.5 FALSE
       430           1       4 05-02-10          39954.04 FALSE
       287           1       3 05-02-10          13740.12 FALSE
       144           1       2 05-02-10          50605.27 FALSE
```

SELECT *

FROM stores_data

WHERE TYPE = 'A'

ORDER BY SIZE1 DESC

FETCH FIRST 2 ROWS ONLY;

```
SQL> SELECT *
  2  FROM stores_data
  3  WHERE TYPE = 'A'
  4  ORDER BY SIZE1 DESC
  5* FETCH FIRST 2 ROWS ONLY;

  STORE_ID TYPE         SIZE1
---------- ------- ----------
        13 A          219622
        11 A          207499
```

SELECT *

FROM stores_data

WHERE SIZE1 > 3000

ORDER BY TYPE ASC, STORE_ID ASC

FETCH FIRST 5 ROWS ONLY;

```
SQL> SELECT *
  2  FROM stores_data
  3  WHERE SIZE1 > 3000
  4  ORDER BY TYPE ASC, STORE_ID ASC
  5* FETCH FIRST 5 ROWS ONLY;

  STORE_ID TYPE      SIZE1
---------- ------- ---------
         1 A        151315
         2 A        202307
         4 A        205863
         6 A        202505
         8 A        155078
```

SELECT *

FROM features_data

WHERE TEMPERATURE > 80

ORDER BY STORE_ID

FETCH FIRST 3 ROWS ONLY;

```
SQL> SELECT *
  2  FROM features_data
  3  WHERE TEMPERATURE > 80
  4  ORDER BY STORE_ID
  5* FETCH FIRST 3 ROWS ONLY;

  STORE_ID DATE1      TEMPERATURE  FUEL_PRICE  MARKDOWN1  MARKDOWN2  MARKDOWN3  MARKDOWN4  MARKDOWN5        CPI  UNEMPLOYMENT ISHOLIDAY
---------- ---------- ----------- ----------- ---------- ---------- ---------- ---------- ---------- ---------- ------------ ---------
         1 28-05-10        80.44       2.759                                                          210.8967606       7.808 FALSE
         1 04-06-10        80.69       2.705                                                          211.1764278       7.808 FALSE
         1 11-06-10        80.43       2.668                                                          211.4560951       7.808 FALSE
```

SELECT store_id ,Date1, temperature

FROM features_data

WHERE DATE1 = '12-02-2010'

ORDER BY UNEMPLOYMENT DESC

FETCH FIRST 4 ROWS ONLY;

```
SQL> SELECT store_id ,Date1, temperature
  2  FROM features_data
  3  WHERE DATE1 = '12-02-2010'
  4  ORDER BY UNEMPLOYMENT DESC
[ 5* FETCH FIRST 4 ROWS ONLY;

  STORE_ID DATE1              TEMPERATURE
---------- -----------      ---------------
        12 12-02-10               47.87
        38 12-02-10               47.87
        28 12-02-10               47.87
        33 12-02-10               55.47
```