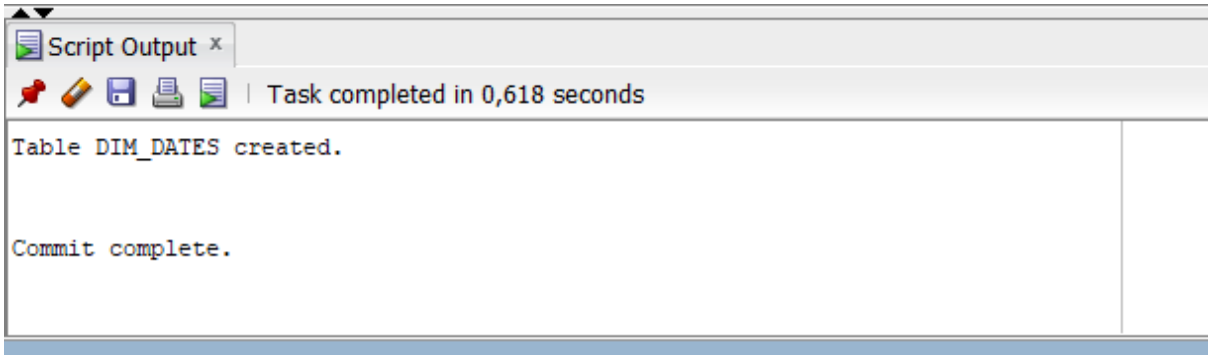
TASK4 REPORT

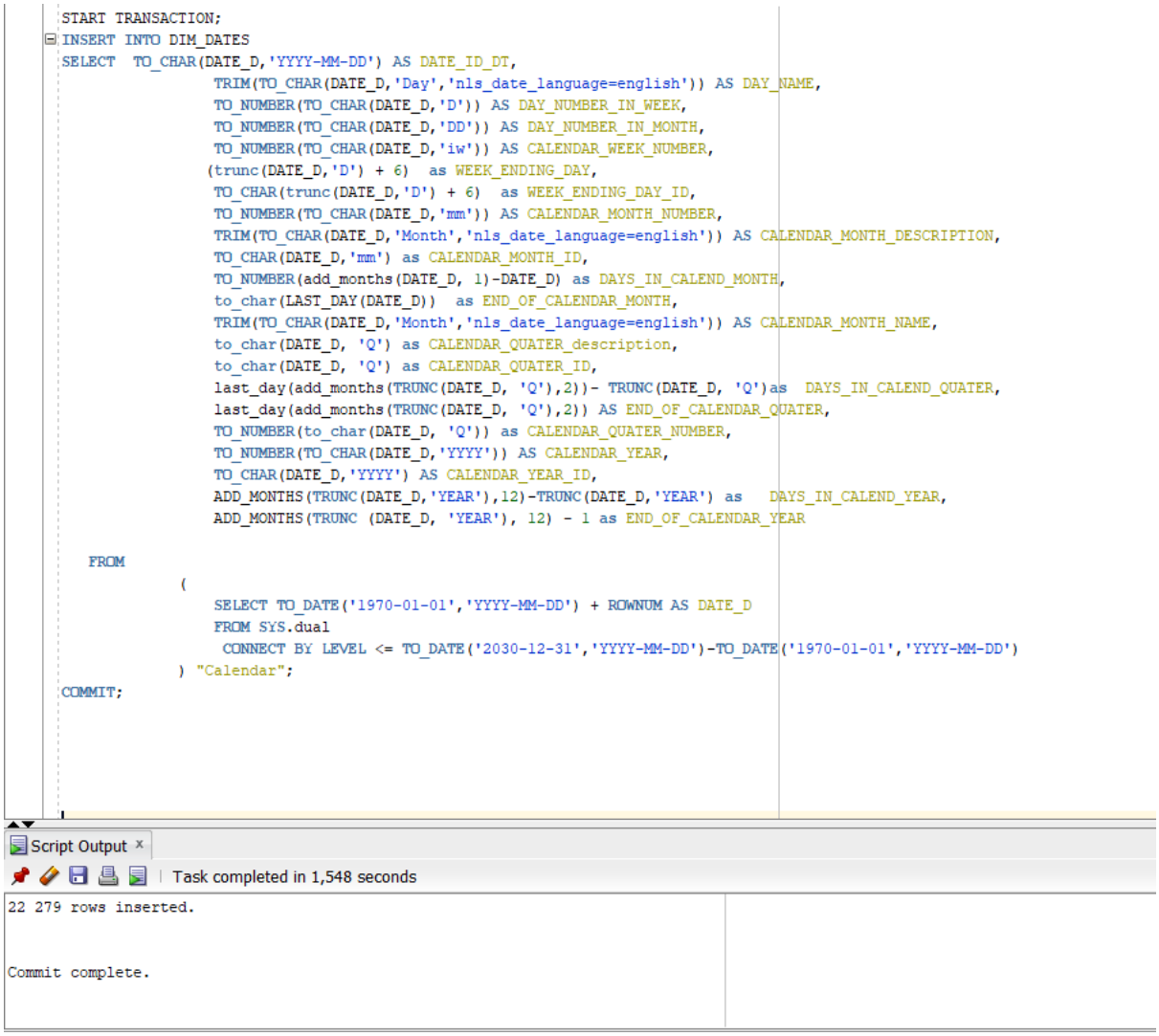
1 DATA MODELING TASK

Step 1: create a table




```
CREATE TABLE DIM_DATES
  (DATE_ID_DT VARCHAR2(20) PRIMARY KEY,
  DAY_NAME VARCHAR2(20) NOT NULL ,
  DAY_NUMBER_IN_WEEK NUMBER  NOT NULL,
  DAY_NUMBER_IN_MONTH NUMBER   NOT NULL,
  CALENDAR_WEEK_NUMBER NUMBER  NOT NULL,
  WEEK_ENDING_DAY DATE  NOT NULL ,
  WEEK_ENDING_DAY_ID VARCHAR2(20) NOT NULL ,
  CALENDAR_MONTH_NUMBER NUMBER  NOT NULL ,
  CALENDAR_MONTH_DESCRIPTION VARCHAR2(20)  NOT NULL,
  CALENDAR_MONTH_ID NUMBER  NOT NULL,
  DAYS_IN_CALEND_MONTH NUMBER  NOT NULL,
  END_OF_CALENDAR_MONTH DATE  NOT NULL,
  CALENDAR_MONTH_NAME VARCHAR2(20)  NOT NULL,
  CALENDAR_QUATER_DESCRIPTION VARCHAR2(20)  NOT NULL,
  CALENDAR_QUATER_ID VARCHAR2(20)  NOT NULL,
  DAYS_IN_CALEND_QUATER NUMBER  NOT NULL,
  END_OF_CALENDAR_QUATER DATE  NOT NULL,
  CALENDAR_QUATER_NUMBER VARCHAR2(20)  NOT NULL,
  CALENDAR_YEAR NUMBER  NOT NULL,
  CALENDAR_YEAR_ID NUMBER  NOT NULL,
  DAYS_IN_CALEND_YEAR NUMBER  NOT NULL,
  END_OF_CALENDAR_YEAR DATE  NOT NULL
        );
```

Step 2: Fill the table



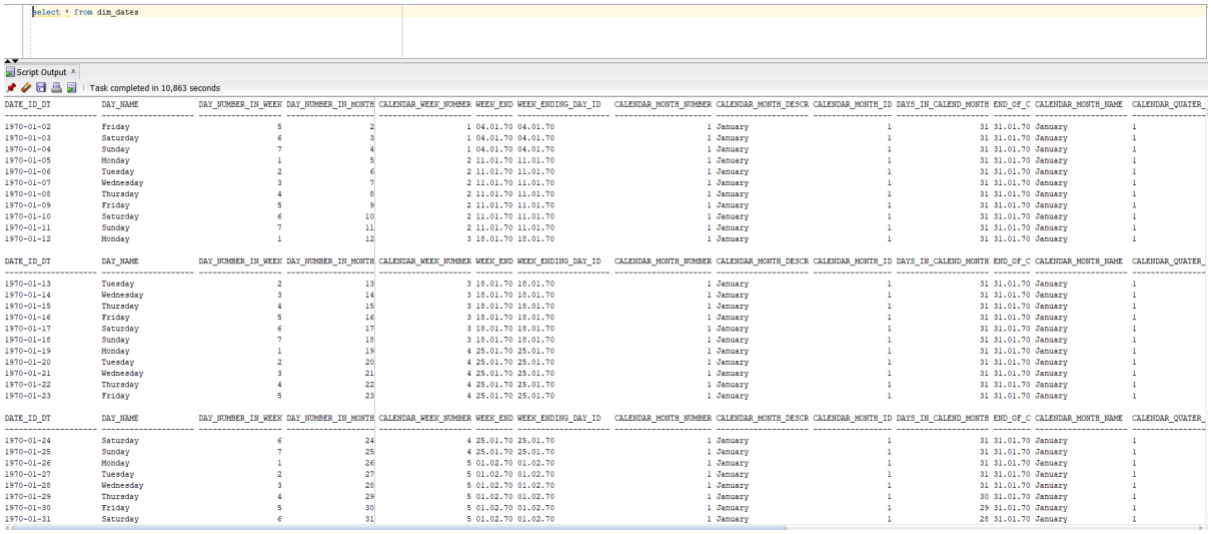

```
INSERT INTO DIM_DATES
SELECT  TO_CHAR(DATE_D,'YYYY-MM-DD') AS DATE_ID_DT,
                TRIM(TO_CHAR(DATE_D,'Day','nls_date_language=english')) AS
DAY_NAME,
                TO_NUMBER(TO_CHAR(DATE_D,'D')) AS DAY_NUMBER_IN_WEEK,
                TO_NUMBER(TO_CHAR(DATE_D,'DD')) AS DAY_NUMBER_IN_MONTH,
                TO_NUMBER(TO_CHAR(DATE_D,'iw')) AS CALENDAR_WEEK_NUMBER,
                (trunc(DATE_D,'D') + 6)  as WEEK_ENDING_DAY,
                TO_CHAR(trunc(DATE_D,'D') + 6)  as WEEK_ENDING_DAY_ID,
                TO_NUMBER(TO_CHAR(DATE_D,'mm')) AS
CALENDAR_MONTH_NUMBER,
                TRIM(TO_CHAR(DATE_D,'Month','nls_date_language=english')) AS
CALENDAR_MONTH_DESCRIPTION,
                TO_CHAR(DATE_D,'mm') as CALENDAR_MONTH_ID,
                TO_NUMBER(add_months(DATE_D, 1)-DATE_D) as
DAYS_IN_CALEND_MONTH,
                to_char(LAST_DAY(DATE_D))  as END_OF_CALENDAR_MONTH,
                TRIM(TO_CHAR(DATE_D,'Month','nls_date_language=english')) AS
CALENDAR_MONTH_NAME,
```

```
                to_char(DATE_D, 'Q') as CALENDAR_QUATER_description,
                to_char(DATE_D, 'Q') as CALENDAR_QUATER_ID,
                last_day(add_months(TRUNC(DATE_D, 'Q'),2))- TRUNC(DATE_D, 'Q')as
DAYS_IN_CALEND_QUATER,
                last_day(add_months(TRUNC(DATE_D, 'Q'),2)) AS
END_OF_CALENDAR_QUATER,
                TO_NUMBER(to_char(DATE_D, 'Q')) as CALENDAR_QUATER_NUMBER,
                TO_NUMBER(TO_CHAR(DATE_D,'YYYY')) AS CALENDAR_YEAR,
                TO_CHAR(DATE_D,'YYYY') AS CALENDAR_YEAR_ID,
                ADD_MONTHS(TRUNC(DATE_D,'YEAR'),12)-TRUNC(DATE_D,'YEAR') as
DAYS_IN_CALEND_YEAR,
                ADD_MONTHS(TRUNC (DATE_D, 'YEAR'), 12) - 1 as
END_OF_CALENDAR_YEAR

  FROM
        (
                SELECT TO_DATE('1970-01-01','YYYY-MM-DD') + ROWNUM AS DATE_D
                FROM SYS.dual
                CONNECT BY LEVEL <= TO_DATE('2030-12-31','YYYY-MM-DD')-
TO_DATE('1970-01-01','YYYY-MM-DD')
        ) "Calendar";


COMMIT;
```

Step 3: the result



```
select * from dim_dates
```

Script Output

Task completed in 10,863 seconds

DATE_ID_DT	DAY_NAME	DAY_NUMBER_IN_WEEK	DAY_NUMBER_IN_MONTH	CALENDAR_WEEK_NUMBER	WEEK_END	WEEK_ENDING_DAY_ID	CALENDAR_MONTH_NUMBER	CALENDAR_MONTH_DESCR	CALENDAR_MONTH_ID	DAYS_IN_CALEND_MONTH	END_OF_C	CALENDAR_MONTH_NAME	CALENDAR_QUATER_
1970-01-02	Friday	5	2	1	04.01.70	04.01.70	1	January	1	31	31.01.70	January	1
1970-01-03	Saturday	6	3	1	04.01.70	04.01.70	1	January	1	31	31.01.70	January	1
1970-01-04	Sunday	7	4	1	04.01.70	04.01.70	1	January	1	31	31.01.70	January	1
1970-01-05	Monday	1	5	2	11.01.70	11.01.70	1	January	1	31	31.01.70	January	1
1970-01-06	Tuesday	2	6	2	11.01.70	11.01.70	1	January	1	31	31.01.70	January	1
1970-01-07	Wednesday	3	7	2	11.01.70	11.01.70	1	January	1	31	31.01.70	January	1
1970-01-08	Thursday	4	8	2	11.01.70	11.01.70	1	January	1	31	31.01.70	January	1
1970-01-09	Friday	5	9	2	11.01.70	11.01.70	1	January	1	31	31.01.70	January	1
1970-01-10	Saturday	6	10	2	11.01.70	11.01.70	1	January	1	31	31.01.70	January	1
1970-01-11	Sunday	7	11	2	11.01.70	11.01.70	1	January	1	31	31.01.70	January	1
1970-01-12	Monday	1	12	3	18.01.70	18.01.70	1	January	1	31	31.01.70	January	1
DATE_ID_DT	DAY_NAME	DAY_NUMBER_IN_WEEK	DAY_NUMBER_IN_MONTH	CALENDAR_WEEK_NUMBER	WEEK_END	WEEK_ENDING_DAY_ID	CALENDAR_MONTH_NUMBER	CALENDAR_MONTH_DESCR	CALENDAR_MONTH_ID	DAYS_IN_CALEND_MONTH	END_OF_C	CALENDAR_MONTH_NAME	CALENDAR_QUATER_
1970-01-13	Tuesday	2	13	3	18.01.70	18.01.70	1	January	1	31	31.01.70	January	1
1970-01-14	Wednesday	3	14	3	18.01.70	18.01.70	1	January	1	31	31.01.70	January	1
1970-01-15	Thursday	4	15	3	18.01.70	18.01.70	1	January	1	31	31.01.70	January	1
1970-01-16	Friday	5	16	3	18.01.70	18.01.70	1	January	1	31	31.01.70	January	1
1970-01-17	Saturday	6	17	3	18.01.70	18.01.70	1	January	1	31	31.01.70	January	1
1970-01-18	Sunday	7	18	3	18.01.70	18.01.70	1	January	1	31	31.01.70	January	1
1970-01-19	Monday	1	19	4	25.01.70	25.01.70	1	January	1	31	31.01.70	January	1
1970-01-20	Tuesday	2	20	4	25.01.70	25.01.70	1	January	1	31	31.01.70	January	1
1970-01-21	Wednesday	3	21	4	25.01.70	25.01.70	1	January	1	31	31.01.70	January	1
1970-01-22	Thursday	4	22	4	25.01.70	25.01.70	1	January	1	31	31.01.70	January	1
1970-01-23	Friday	5	23	4	25.01.70	25.01.70	1	January	1	31	31.01.70	January	1
DATE_ID_DT	DAY_NAME	DAY_NUMBER_IN_WEEK	DAY_NUMBER_IN_MONTH	CALENDAR_WEEK_NUMBER	WEEK_END	WEEK_ENDING_DAY_ID	CALENDAR_MONTH_NUMBER	CALENDAR_MONTH_DESCR	CALENDAR_MONTH_ID	DAYS_IN_CALEND_MONTH	END_OF_C	CALENDAR_MONTH_NAME	CALENDAR_QUATER_
1970-01-24	Saturday	6	24	4	25.01.70	25.01.70	1	January	1	31	31.01.70	January	1
1970-01-25	Sunday	7	25	4	25.01.70	25.01.70	1	January	1	31	31.01.70	January	1
1970-01-26	Monday	1	26	5	01.02.70	01.02.70	1	January	1	31	31.01.70	January	1
1970-01-27	Tuesday	2	27	5	01.02.70	01.02.70	1	January	1	31	31.01.70	January	1
1970-01-28	Wednesday	3	28	5	01.02.70	01.02.70	1	January	1	31	31.01.70	January	1
1970-01-29	Thursday	4	29	5	01.02.70	01.02.70	1	January	1	30	31.01.70	January	1
1970-01-30	Friday	5	30	5	01.02.70	01.02.70	1	January	1	29	31.01.70	January	1
1970-01-31	Saturday	6	31	5	01.02.70	01.02.70	1	January	1	28	31.01.70	January	1

2 ANALYTICAL TASK

I have created 3NF schema in SQL Data Modeler.

3NF Schema Model: