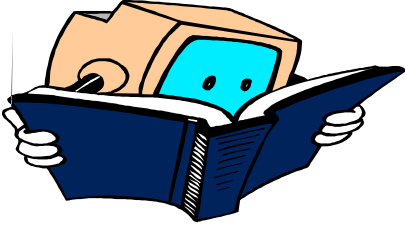# DATA MODEL LAB AND MORE ABOUT CREATING TABLES AND INDEXES

Identify the correct attributes for each table, (see table specifications on the next page). Identify, the primary key for the President table and a foreign key in the Administration table. Note, you do not need to create primary keys in the other tables – only the President table and a foreign key on the Administration table. Create 7 tables as the sidpers user. The seven tables are called: **PRESIDENT, ELECTION, ADMIN_PR_VP, ADMINISTRATION, PRES_HOBBY, PRES_MARRIAGE, STATE.** See pres.sql. Create these tables in Sql Developer or using SQL*PLUS. For example:

```
CREATE TABLE PRESIDENT
      (PRES_NAME            char(20) NOT NULL,
       BIRTH_YR             number(4)  NULL,
       YRS_SERV             number(4)  NULL,
       DEATH_AGE            number(4)  NULL,
       PARTY                char(20) NULL,
       STATE_BORN           char(20) NULL)
```

The specs for these tables can be found on subsequent pages of this lab. Remember to check the sample against the specs to make sure they match up. Find the foreign key column in the ADMINISTRATION table which references PRESIDENT and create a foreign key (RI) on it . (HINT: These tables must be empty before creating (RI) constraints.)

Table Specifications:

We want to collect these items of data about presidents of the United States into these tables:

ITEM	TYPE	LENGTH	NULLS ALLOWED
PRESIDENT NAME	CHAR	20	NO
YEAR BORN	NUMBER(4)		NO
NUMBER YEARS SERVED	NUMBER(4)		NO
AGE AT DEATH	NUMBER(4)		YES
PARTY	CHAR	20	NO
STATE BORN	CHAR	20	NO
STATE	CHAR	20	NO
YEAR STATE ENTERED U.S.	NUMBER(4)		NO
ADMINISTRATION STATE ENTERED	NUMBER(4)		YES
ADMINISTRATION NUMBER	NUMBER(4)		NO
YEAR INAUGURATED	NUMBER(4)		NO
VICE-PRESIDENT NAME	CHAR	20	NO
PRESIDENT'S HOBBIES	CHAR	20	YES
PRESIDENT'S SPOUSE	CHAR	20	YES
YEAR MARRIED	NUMBER(4)		YES
PRESIDENT'S AGE AT MARRIAGE	NUMBER(4)		YES
SPOUSE'S AGE AT MARRIAGE	NUMBER(4)		YES
NUMBER OF CHILDREN	NUMBER(4)		YES
ELECTION YEAR	NUMBER(4)		NO
CANDIDATE	CHAR	20	NO
VOTES	NUMBER(4)		NO
WINNER/LOSER INDICATOR	CHAR	1	NO

LAB 5 - MORE ABOUT CREATING TABLES AND INDEXES

TABLE COLUMN NAMES AND RELATIONSHIPS

The logical data base design process suggest tables with the following columns:

PRESIDENT:

pres_name, birth_yr, yrs_serv,death_age,party,state_born

ADMINISTRATION:

admin_nr, pres_name,year_inaugurated

ADMIN_PR_VP:

admin_nr, pres_name, vice_pres_name

STATE:

state, admin_entered,year_entered

PRES_HOBBY:

pres_name,hobby

PRES_MARRIAGE

pres_name,spouse_name,pr_age,sp_age,nr_children,mar_year

ELECTION:
election_year,candidate,votes,winner_loser_indic

LAB 5 - MORE ABOUT CREATING TABLES AND INDEXES

PRESIDENT TABLE QUERIES

Insert your name into the PRESIDENT table. Execute uinsert.SQL to load the tables. No changes are needed to these inserts. See: uinsert.SQL.

Execute 'SELECT' statements to verify the data exists in each of your tables.

List the president's name, year born, year married, and spouse's name of all married presidents.

Show the average votes received by winning candidates.

Show all presidents their adminstration and any hobbies they may have had.

Add data to the ELECTION table for the 2000

Create a single list (without duplicates) of all the names of all individuals mentioned in the lab tables. Present the output in name order. (use a union).

Change all occurrences of 'Republican' to 'Conservative'.

Create a SPOUSE table that contains spouse name and marriage year. Load it from the PRES_Marriage table.

California has fallen into the Pacific. Delete it from the STATE table.

How many candidates have their been?

LAB 5 - MORE ABOUT CREATING TABLES AND INDEXES

12. Add a column to the STATE table for state flower.

13. Create a table for flowers containing columns for flower name and color. Insert your own state flower data.

14. Add a column for height in the FLOWER table.

15. Delete the FLOWER table

16. Which Presidents never won an election? (Use a subquery)

Optional Queries:

1. Summarize total votes by candidate without regard to election year. Show in descending total vote sequence.

2. Add yourself as a candidate in the election table, then using a complex insert, add yourself to the PRESIDENT table as the next president adding appropriate values as needed using data (your name) from the election table.