This problem illustrates the concept of relational databases by linking (or relating) three database tables, based on common fields. The class web site contains an Access database file named hw10db that contains the following database tables.

**COUNTY (AREACODE, NAME)**
where AREACODE is a 4-digit code representing counties of origin for students, and NAME is the county name corresponding to that code

**ECODES (ETHNICCODE, NAME)**
where ETHNICCODE is a 1-character code representing student race/ethnicity, NAME is the corresponding race or ethnicity for that code

**ERSS (SSN, SEXCODE, ETHNICCODE, AREACODE, STULEVEL, MAJORCODE...)**
where each row of this table represents enrollment information for one student for Spring 2002 (note that all student data are fictitious)

This assignment consists of a series of 7 tasks: 4 tasks involve creating and printing a query and 3 tasks involve creating/printing a query and a report. The point value for each task is specified. Your answer to tasks 1 through 4 is a series of 4 printed queries; your answer to tasks 5 through 7 is a series of 3 printed reports that are based on queries. See the attached sheet containing sample screens for more information. Include the query number and your name in the title of each query and report. Use readable names (labels) for all columns in queries and/or reports.

1. (10 points) Use the *Group By* feature to find the number of freshmen students for each county of residence, sorted in ascending order by COUNTY.NAME

2. (10 points) Use the *Group By* feature to find the number of students in each grade level (i.e., STULEVEL) whose MAJORCODE is ‘04011’ and sorted in descending order by STULEVEL

3. (10 points) Use the *Group By* feature to find the number of students for each race/ethnicity and gender, sorted in descending order by ECODES.NAME and then by SEXCODE

4. (10 points) Use the *Group By* feature to find the number of African-American students who are juniors (STULEVEL=‘3’) and whose county of residence was Stanislaus, Merced, San Joaquin, or Tuolumne. Sort in ascending order by COUNTY.NAME. Hint: For the criteria in the AREACODE field, use the “in” operator as follows:
   ```sql
   in ('0050','xxxx','xxxx','xxxx')
   ```

5. (20 points) Create a query and a report titled “R5 - Native American Student Analysis by Your Name” to display information about all such students (i.e., all counties, all student levels, and both genders). Submit a one-page printout of your report for this task. Display the following columns: ssn, county.name, sexcode, stulevel, ecodes.name

6. (20 points) Create a query and a report titled “R6 - Hispanic/Latino Student Analysis by Your Name” to display information about male students whose county of residence is San Joaquin (open table COUNTY to get the county AREACODE). Submit a printout of your report for this task. Display the following columns:
   ```sql
   ssn, county.name, sexcode, stulevel, ecodes.name
   ```
   Hint: Use the following codes in the criteria portion of the ethniccode field:
   ```sql
   in ('A', 'B', 'P', 'Q', '3', '4')
   ```

7. (20 points) Create a query and a report titled “R7 - Excess Units Report by Your Name” and print the following fields:
   ```sql
   SSN, ECODE.NAME, SEXCODE, STULEVEL, and Units. Units is a created field; create the field by typing the following (verbatim) in a blank Field cell: Units:attemptld+attemptud+attemptgr and then type >18 in the criteria cell for Units. Sort in descending order by Units.
   ```

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Class web site http://www.cs.csustan.edu/~lamie/cs4000/main.htm
Design of Sample Query in Database \texttt{hw10db}

Click on this icon to use the “Group By” feature

Click on this cell to change from “Group By” to “Count”

Design of Sample Report in Database \texttt{hw10db}

\textbf{Asian-American Student Analysis}
\textit{Developed by Your Name}