Queries I

WV Senate Problem

Topics

- Create a single table query
- Use sorting in a query
- Use multiple tables in a query
- Sort on multiple fields
- Use a SQL `SELECT` query

Background Information

This project includes information on West Virginia Senate elections from 2000 to 2014.

Instructions

IMPORTANT: This assignment requires the Windows version of Microsoft Office.

IMPORTANT: Complete the steps below in the order they are given. Completing the steps out of order may complicate the assignment or result in an incorrect result.

1. Download and extract the provided Data Files ZIP file. It contains the following file for use in this assignment:
   a. **senate_ppq1_wvsp.accdb** – Information on West Virginia Senate elections [1]–[5].

Table: *Candidates*		
Field Name	**Type**	**Description**
CandidateID	AutoNumber	Primary. Unique identifier for the candidate.
District	Number	Number of State Senate district.
Year	Number	Year of election.
PartyAbbrv	Short Text	Political party abbreviation.
CandidateFirst	Short Text	First name of candidate.
CandidateLast	Short Text	Last name of candidate.
Raised	Currency	Amount of funds raised by candidate.
VotesReceived	Number	Votes received by candidate.

Table: *Districts*		
Field Name	**Type**	**Description**
RedistrictingCycle	Number	Part of composite key. Census data year used for redistricting.
District	Number	Part of composite key. Number of State Senate district.
Counties	Short Text	List of counties or parts of counties in the district.
Population	Number	Population of district.

Table: *Elections*		
Field Name	**Type**	**Description**
RedistrictingCycle	Number	Redistricting cycle this election used.
District	Number	Part of composite key. Number of State Senate district.
Year	Number	Part of composite key. Year of election.
IncumbentFirstNam e	Short Text	First name of incumbent.
IncumbentLastName	Short Text	Last name of incumbent.
IncumbentRetired	Yes/No	Indication if the incumbent was not running.
WinnerFirstName	Short Text	First name of the winner.
WinnerLastName	Short Text	Last name of the winner.
WinnerPctg	Number	Percentage of the total vote received by the winner.

Table: *Parties*		
Field Name	**Type**	**Description**
PartyAbbrv	Short Text	Primary key. Abbreviation of party name.
PartyName	Short Text	Full text of political party name.

Table: *AnalysisQuestions*		
Field Name	**Type**	**Description**
QuestionNumber	Short Text	Primary key. Question being answered.
Response	Long Text	Response to the analysis question prompt.

2. Open the **senate_ppq1_wvsp.accdb** database in Microsoft Access.
3. Create separate queries to provide the information requested below. Name each query after the step in which it appears (e.g., the name the query in Step 3a as *Query3A*).

   HINT: Run your queries to test them. Make sure that they display all and only the records that you would expect to appear.

Create a single table query

a. Create a query to view information on each candidate. List each district, year, political party abbreviation, candidate's first name and last name, funds raised by the candidate, and votes received by the candidate.

   HINT: This query will show 250 records and 7 fields.

Use sorting in a query

b. We wish to view information on the winners of each race. Create a query listing each year, district, winner's first name and last name, and percentage of total votes received by the winner.

   Sort by election year in ascending order.

   HINT: This query will show 136 records and 5 fields

Use multiple tables in a query / Sort on multiple fields

c. Create a query to view information on each district and their election results. List each district, year, the counties in the district, the incumbent's first name and last name, the winner's first name and last name, and if the incumbent retired.

   Sort by district and then by year, both in ascending order.

   HINT: This query will show 136 records and 8 fields.

Use a SQL SELECT query

d. We want to determine the number of votes the winning candidate received in each election. Copy-and-paste this SQL code into a new query:

```
SELECT DISTINCT Elections.Year, Elections.District,
Count(Candidates.CandidateLast) AS CandidatesRunning,
Round(Max([Candidates.VotesReceived]),2) AS
WinningVotesReceived, Elections.WinnerFirstName,
Elections.WinnerLastName
FROM Elections RIGHT JOIN Candidates ON (Elections.Year =
Candidates.Year) AND (Elections.District =
Candidates.District)
GROUP BY Elections.Year, Elections.District,
Elections.WinnerFirstName, Elections.WinnerLastName
ORDER BY Elections.Year, Elections.District;
```

   IMPORTANT: Do not make any modifications to this query other than entering the above SQL code.

   HINT: This query will show 136 records and 6 fields.

e. We wish to list each district and its incumbents. Copy-and-paste this SQL code into a new query:

```
SELECT Elections.Year, Elections.District,
Elections.IncumbentFirstName, Elections.IncumbentLastName,
Elections.IncumbentRetiring
FROM Elections
ORDER BY Elections.Year, Elections.District;
```

The provided query will prompt for a missing value when run. Correct the invalid field name to fix the query.

HINT: Once corrected, this query will show 136 records and 5 fields.

4. In the *AnalysisQuestions* table, answer the analysis question below. Respond to one question per record.
   a. Do you see any candidates who were a write-in candidate or nominated by one party in one year and nominated by a different party in a different year? Why might they have changed?
5. Run the Compact and Repair Database utility on your database. Ignore any errors you receive when running the utility.

Grading Rubric

This assignment is worth 8 points. It will be graded by your instructor using this rubric:

Standard	Meets Requirements (8 points)	Does Not Meet Requirements (0 points)
Student made reasonable effort in correctly completing assignment.	Assignment is at least 70% complete and correct, or student contacted instructor for help on incorrect or incomplete items.	Assignment is less than 70% complete and correct, and student did not contact instructor for assistance on incorrect or incomplete items.

This rubric will be used for peer evaluation of this assignment:

Standard	Excellent	Satisfactory	Needs Improvement
Assignment is correct and complete.	Assignment is at least 90% complete and correct.	Assignment is 70%-89% complete and correct.	Assignment is less than 70% complete and correct.

The analysis question in Step 4a will be evaluated using this rubric:

Standard	Meets Requirements	Does Not Meet Requirements
Answer is reasonable.	Answer addresses the question prompt and is factually correct or a reasonable interpretation of available data.	Answer does not address the question prompt, is factually incorrect, or is an unreasonable interpretation of available data.
Answer is supported.	Logical rationale is provided to support the given answer.	Logical rationale is not provided to support the given answer.

References

[1] D. E. Holmes, *West Virginia Blue Book 1999*, vol. 81. Charleston, West Virginia: West Virginia Legislature, 1999.
[2] D. E. Holmes, *West Virginia Blue Book 2008*, vol. 90. Charleston, West Virginia: West Virginia Legislature, 2008.
[3] D. E. Holmes, *West Virginia Blue Book 2012*, vol. 90. Charleston, West Virginia: West Virginia Legislature, 2012. Available: *http://www.legis.state.wv.us/legisdocs/2012/bluebook/bluebook2012.pdf*.
[4] "Elections - History & Data," *West Virginia Secretary of State*. Available: *http://www.sos.wv.gov/elections/history/Pages/default.aspx*.
[5] "Campaign Finance Reporting System," *West Virginia Secretary of State*. Available: *http://cfrs.wvsos.com/#/home*.