



Topics

- Use calculated fields in a query
- Format fields
- Use criteria to restrict results
- Use AND/OR criteria in a query
- Use NOT criteria in a 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_ppq2_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.



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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.
IncumbentFirstName	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_ppq2_wvsp.accdb** database in Microsoft Access.
3. There is nothing to do for this step. Please proceed to the next step.
4. 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 4a as *Query4A*).

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



Use calculated fields in a query / Format fields

- a. We wish to understand the demographics of each Senate district. Create a new query that lists each district, redistricting cycle, population, and a calculated field with the number of households.

You can calculate the number of households by assuming an average of 2.43 people per household using the formula:

$$\frac{[Districts.Population]}{2.43}$$

Format the population and number of households as a standard-type number with no decimal places. Sort by redistricting cycle and then by district, both in ascending order.

HINT: This query will show 51 records and 4 fields.

Use criteria to restrict results

- b. Create a query to view elections where the winner received less than 50% of the vote. List the year, district, winner's first name and last name, and the percentage of the total vote they won.

Only display records where the incumbent won less than 50% (< 0.5) of the total vote.

HINT: This query will show 3 records and 5 fields.

Use AND/OR criteria in a query

- c. We would like to learn more about self-funded candidates (those who raised no money) and write-in candidates. Create a query listing the year, district, candidate's first name and last name, full party name, funds raised, and votes received.

Only display candidates that were write-in or who raised \$0.

HINT: This query will show 17 records and 7 fields.



Use NOT criteria in a query

- d. Create a query displaying information on all third party and write-in candidates. List the year, district, candidate's first name and last name, and full party name.

Only display candidates that were not members of the Democratic Party or the Republican Party.

HINT: This query will show 17 records and 5 fields.

- e. We wish to list each district, its counties, and its candidates from the 2014 election. Copy-and-paste this SQL code into a new query:

```
SELECT Candidates.Year, Districts.District,  
Districts.Counties, Candidates.CandidateFirst,  
Candidates.CandidateLast  
FROM Candidates, Districts  
WHERE (((Candidates.Year)=2014))  
ORDER BY Districts.District, Candidates.CandidateLast;
```

The provided query will show more records than it should because it is missing a table. Add the missing table to fix the query.

HINT: Once corrected, this query will show 39 records and 5 fields.

5. In the *AnalysisQuestions* table, answer the analysis question below. Respond to one question per record.
 - a. Only about 2% of winners received only a plurality, rather than a majority, of the vote. Why is it so rare for there to not be a majority winner in West Virginia Senate elections?



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6. 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 5a 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.



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- [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>.