Access Basics
WV K-12 Education Problem

Topics

- Add, edit, and delete records
- Use Datasheet and Design views for tables
- Use Datasheet, Design, and SQL views for queries
- View query results
- View forms
- View reports
- Compact and repair the database

Background Information

This project includes information on West Virginia K-12 schools from 2012 to 2020.

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. **education_ppab_wvkep.accdb** – Information on West Virginia K-12 schools [1], [2].

Table: *Districts*		
Field Name	**Type**	**Description**
District	Short Text	Primary key. Name of the school district.
Region	Short Text	Region where the school district is located.

Table: *DistrictStatistics*		
Field Name	**Type**	**Description**
District	Short Text	Part of composite key. Name of the school district.
SchoolYear	Short Text	Part of composite key. School year for the data.
Population	Number	Population of the school district.
DropoutRate	Percentage	Percentage of students who dropped out of school in the school district.

Table: *Schools*		
Field Name	**Type**	**Description**
SchoolID	Short Text	State-assigned identifier for the school.
SchoolName	Short Text	Name of the school.
County	Short Text	County where the school is located.
Closed	Yes/No	If yes, school is closed as of 2020-2021 school year.

Table: *SchoolStatistics*		
Field Name	**Type**	**Description**
ID	AutoNumber	Primary key. Unique identifier for the school statistics.
SchoolID	Short Text	State-assigned identifier for the school.
SchoolYear	Short Text	School year for the data.
ManagingDistrict	Short Text	Name of school district that manages the school.
GradesServed	Short Text	Grades served by the school.
SchoolTypeAbbrv	Short Text	Abbreviation of the school type.
Enrollment	Number	Number of students enrolled in the school.
AttendanceRate	Percentage	Average daily attendance rate for the school.
GraduationRate	Percentage	For high schools, percentage of students who has received a regular diploma in four years.
StudentsTested	Number	Number of students who took state proficiency tests.
MathProficiency	Percentage	Percentage of students that tested proficient in math.
ReadingProficiency	Percentage	Percentage of students that tested proficient in reading.

Table: *SchoolTypes*		
Field Name	**Type**	**Description**
SchoolTypeAbbrv	Short Text	Primary key. Abbreviation of the school type.
SchoolTypeName	Short Text	Name of the school type.

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 **education_ppab_wvkep.accdb** database in Microsoft Access.

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Add, edit, and delete records / Use Datasheet and Design views for tables

3. We need to add some additional records to the *SchoolTypes* table.

    a. Enter records for all school types below.

        HINT: The *SchoolTypes* table will contain 11 records.

School Type Abbreviation	School Type Name
PRE	Preschool
ALS	Alternative School
TEC	Technical Center

4. We wish to modify records in the *SchoolStatistics* table.

    a. Change the grades served to `01 - 05` for Wiley Ford Primary School (School ID 053208) for all school years.

    b. Change the school type for Pickens Elementary/High School (School ID 075103) from an Elementary/Middle/High School to an Elementary School for all school years.

    c. Attempt to change the school type abbreviation for Belington Elementary (School ID 002201) to `AHS`. You will be unable to complete the change because it would violate referential integrity.

5. We wish to delete records from the *SchoolTypes* table.

    a. Delete the record for the Technical Center.

    b. Attempt to delete the record for the Elementary School. You will be unable to complete the deletion because it would violate referential integrity.

6. Each table contains several fields, each with its own properties. Open the following tables in Design View and look at the properties for each field:

    a. *AnalysisQuestions*

    b. *Districts*

    c. *DistrictStatistics*

    d. *Schools*

    e. *SchoolStatistics*

    f. *SchoolTypes*

Use Datasheet, Design, and SQL views for queries / View query results

7. Queries are used to extract information from a database. Open the following queries in Design View and look at how the queries are designed, then run each query to view its results:

   a. *AttendanceQuery*

   b. *DistrictsQuery*

   c. *DropoutRatesQuery*

   d. *HighGraduationRatesQuery*

   e. *ProficiencyQuery*

   f. *SchoolsQuery*

View forms

8. Forms provide a user-friendly way to edit data. Open the following forms, then look at them in Layout View:

   a. *SchoolData*

   b. *SchoolDataSubform*, a subform associated with *SchoolData*

View reports

9. Reports provide a structured way to view the contents of tables or results of queries. Open the following report, then look at it in Layout View:

   a. *HighGraduationRateSchools*

Compact and repair the database

10. 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.

References

[1] "ZoomWV Data Dashboard," *West Virginia Department of Education*. Available: *https://zoomwv.k12.wv.us/*.

[2] "County Population Totals: 2010-2019," U.S. Census Bureau, Washington, DC, Jun. 2020. Available: *https://www.census.gov/data/datasets/time-series/demo/popest/2010s-counties-total.html*.