

**Georgia FBLA**  
**2017 State Leadership Conference School-site Skills Testing**  
**Database Design & Applications – Production Test**

1. You have been assigned a “Competitor Code” on the front of your test packet. You will need to include this in the file name of every job that you attempt. You will use the following naming convention when naming your PDFs. *For example, if your competitor code is 9023 and you are working on Job 2A, your PDF file name should be “9023-2A.”* Do not type your name or your school name on any file you create.
2. You will have one hour to complete this test. Additional time will be allowed for general directions and warm-up. There is a good possibility that you may not complete every problem. Many of the problems are designed to build upon prior work; therefore, it is important that you complete the tasks in the order presented in the test. At the completion of the test or the end of the two hours, you will be allowed to create your PDFs and upload all of the documents you want graded. You are not allowed to make any changes to the files once the hour is over other than creating the PDFs. Each job that you want graded must be uploaded as a separate PDF.

Job No.	Document Type	Point Value
1	Create Tables	20
2	Database Relationships	5
3	Simple Query	5
4	Criteria-Based Query	5
5	Edit Table Data and Relationships	5
6	Multiple Table Query	5
7	Multiple Table Calculation Query	15
8	Make Table Query	10
9	SQL Aggregate Function Query	15
10	Report with Calculations	10

Note: To assist you in knowing what to print throughout this test, each instruction for printing is labeled with the job number and a letter. For example, Print 1 indicates the printout for Job 1. Some printouts may include more than one page.

3. Before beginning, practice how to print what is requested in the database software you are using. Each package differs in what can be easily printed and in the exact steps that get documentation to print. A good general purpose tool for this test is to capture screens and paste them into a word processing document, printing the result. The mechanism for this is to arrange the desired result on the screen (for instance, a table definition, relationships window, or query definition):
  - Use the Alt+PrtScreen keys to copy the active window to the clipboard
  - Open a separate window with a word processing program
  - Use Edit | Paste or Ctrl+V to paste the contents of the clipboard onto the word processing page
  - Print the result from the word processor (though you might save results from several jobs each on a new page for printing at the end of the test)
4. The database you will be developing is a scaled down test that does not have many of the features that would be expected from a database developed for actual use. For instance, a table of customers may be limited to a Customer ID and a Customer Name rather than include fields for full address, phone number, etc.; and full validation rules will not be required. This approach allows time to test a number of database development principles, and grading of the test will focus on what is asked for. Do not spend test time improving or enhancing the database beyond what is identified in the instructions.
5. Reference manuals are not allowed.
6. You must carefully proofread all your work because results are based on accuracy of printed copy. Two (2) or five (5) points will be deducted for each typographical error. A panel of judges for this event will evaluate your documents. All judges’ decisions are final.
7. After the test begins, no help may be given to you concerning the normal operation of the equipment. However, if your machine fails, call the proctor.
8. When you have completed the exam, you will need to turn in all of your materials, including the test, any pages you have printed out. You will also need to upload all of the documents you want graded.
9. Once you have uploaded all of your documents online, you must return your testing materials to the white testing envelope provided.

**DO NOT OPEN THE TEST UNTIL GIVEN PERMISSION TO DO SO. GOOD LUCK!**

*Upload your testing materials for judging to:*

**<https://georgiafbla.wufoo.com/forms/2017-slc-database-design-applications/>**

## General Information

You have been asked to create a small database to track a company's billing. The key elements of this database include client, course, and fee information.

**Note:** You will be asked to use "screen capture" to document completion of some of these activities as Print Jobs. To create a screen capture:

- For PCs, use the Alt+PrintScreen keys; this copies an image of the window (what you see) into the computer's clipboard. Open Paint and paste the contents of the clipboard. Then, print the pasted screen capture.
- For Macs, use the Command+Shift+3 keys; this saves an image of the window (what you see) to the desktop. Open the saved image. Then, print the screen capture.

### Job 1: Create Tables (25 points)

1. Create a blank database using your last name as the name for the database.
2. Name each table based upon its description (i.e. Clients, Courses, and Fees).
3. Align all data within each field as shown on page 3.

**Clients Table Data Requirements**

Field	Data Type	Primary Key
Client Number	Number	
Client Name	Text	
Course Number	Text	

**Courses Table Data Requirements**

Field	Data Type	Primary Key
Course Number	Text	✓
Course Description	Text	
Fee Number	Number	

**Fees Table Data Requirements**

Field	Data Type	Primary Key
Fee Number	Number	✓
Fee Description	Text	
Fee Rate	Currency	

**Clients Table Data**

Client Number	Client Name	Course Number
53	Kyle Granger	D01
143	Patricia Jean	D01
143	Patricia Jean	D03
143	Patricia Jean	W01
327	Jenna Smarter	W01
561	Buda Hendley	D02
561	Buda Hendley	D04
561	Buda Hendley	W02
771	Mike Bavant	D04

**Fees Table Data**

Fee Number	Fee Description	Fee Rate
1	One-credit hour	\$50.00
2	Two-credit hours	\$100.00
3	Three-credit hours	\$150.00
4	Four-credit hours	\$200.00

**Courses Table Data**

Course Number	Course Description	Fee Number
D01	Database Design Fundamentals	1
D02	Advanced Database Design	3
D03	Desktop Publishing Fundamentals	2
D04	Advanced Desktop Publishing	3
W01	Word Processing Fundamentals	2
W02	Advanced Word Processing	4

**Print Job 1-A:** Clients Table. Save this job as a PDF using the file name “####-1A,” replacing #### with your competitor code.

**Print Job 1-B:** Courses Table. Save this job as a PDF using the file name “####-1B,” replacing #### with your competitor code.

**Print Job 1-C:** Fees Table. Save this job as a PDF using the file name “####-1C,” replacing #### with your competitor code.

## **Job 2: Database Relationships (5 points)**

1. Create the following relationships while enforcing referential integrity:
  - a. One-to-many for the *Course Number* field from the *Courses* table to the *Clients* table.
  - b. One-to-many for the *Fee Number* field from the *Fees* table to the *Courses* table.
2. Create a screen capture of the database relationships.

**Print Job 2:** Database relationships screen captures. Save this job as a PDF using the file name “####-2,” replacing #### with your competitor code.

## **Job 3: Simple Query (5 points)**

1. Create a simple query using the *Clients* table. Include the following fields in this exact order: Client Number, Client Name, Course Number.
2. Save the query as *Clients Query*.
3. Filter the Client Number field to display results only for client number of **561**.

**Print Job 3:** Filtered *B*. Save this job as a PDF using the file name “####-3,” replacing #### with your competitor code.

## **Job 4: Criteria-Based Query (5 points)**

1. Create a simple query using the *Courses* table. Include the following fields in this exact order: Course Number, Course Description.
2. Display only those courses with a course description that begins with “A”.
3. Save the query as *Courses Query*.
4. View the *Courses Query* in SQL view or display the SQL statement. Create a screen capture of the SQL statement.

**Print Job 4:** *Courses Query SQL statement screen capture*. Save this job as a PDF using the file name “####-4,” replacing #### with your competitor code.

**Job 5: Edit Table Data (5 points)**

1. Open the *Clients* table.
2. Add the Amount Paid field as the last field in the *Clients* table. Set the data type to *Currency*.
3. Before entering data for each record, sort the *Clients* table data in ascending order by Client Number. Then, add the data below to the Amount Paid field.

Amount Paid
\$25.00
\$0.00
\$0.00
\$0.00
\$50.00
\$100.00
\$100.00
\$100.00
\$150.00

4. Save the *Clients* table.

**Print Job 5:** *Edited Clients table*. Save this job as a PDF using the file name “####-5,” replacing #### with your competitor code.

**Job 6: Multiple Table Query (5 points)**

1. Create a multiple table query using the *Clients* table and the *Courses* table. Use the following fields (in this exact order) in the query: *Clients* table—Client Number; *Courses* table—Course Number, Course Description; *Clients* table—Amount Paid.
2. Save the query as *Client Payments Query*.

**Print Job 6:** *Clients Payment Query*. Save this job as a PDF using the file name “####-6,” replacing #### with your competitor code.

**Job 7: Multiple Table Calculation Query (10 points)**

1. Create a multiple table query using the *Clients*, *Courses*, and *Fees* tables. Use the following fields (in this exact order) in the query: *Clients* table—Client Number, Client Name; *Courses* table—Course Number; *Fees* table—Fee Number, Fee Rate; *Clients* table—Amount Paid.
2. As the last field in the query, create a calculated field named **Amount Due** that subtracts the *Amount Paid* from the *Fee Rate*.
3. Ensure Currency formatting is applied to the *Amount Due* field.
4. Save the query as **Amount Due Query**.

**Print Job 7:** *Amount Due Query*. Save this job as a PDF using the file name “####-7,” replacing #### with your competitor code.

**Job 8: Make Table Query (10 points)**

1. Create a table by using all existing data/fields from the *Amount Due Query*.
2. Center-align data in the following fields: Client Number, Course Number, Fee Number.
3. Sort the table data in ascending order by Client Number.
4. Save the new table as ***Amount Due***.

**Print Job 8: *Amount Due* table.** Save this job as a PDF using the file name “####-8,” replacing #### with your competitor code.

**Job 9: SQL Aggregate Function Query (10 points)**

1. Create a SQL Aggregate function query by using the *Amount Due* field from the *Amount Due* table.
2. Use the ***Sum*** aggregate function. (**Note:** You will only have one field of data.)
3. Limit the results to include only amounts due for Client Number 561.
4. Change the caption for the *Sum* field to ***Amount Due***.
5. Save the new query as ***Aggregate Function Query***.
6. View the ***Aggregate Function Query*** in SQL view or display the SQL statement. Create a screen capture of the SQL statement.

**Print Job 9: *Aggregate Function Query* SQL statement screen capture.** Save this job as a PDF using the file name “####-9,” replacing #### with your competitor code.

**Job 10: Report with Calculations (20 points)**

1. Create a report using the *Amount Due Query*. Use the following fields (in this exact order) in the report: *Client Number*, *Amount Due*.
2. Group information by *Client Number*.
3. Add totals to the report that will ***Sum*** the *Amount Due* field by group (showing subtotals in the group header). Also, show a ***Sum*** Grand Total for the *Amount Due* field.
4. Delete the *Amount Due* field in the Detail section of the report. Change the height of the Detail section to 0”.
5. Add a label for the Grand total that reads ***TOTAL AMOUNT DUE***.
6. Ensure the formatting for all *Amount Due* values is set to *Currency*.
7. Format the report attractively.
8. Save the report as ***Amount Due Report***.

**Print Job 10: *Amount Due Report*.** Save this job as a PDF using the file name “####-10,” replacing #### with your competitor code.