

Program Instruction (Project 2 Phase 3)

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1. Using the Eclipse IDE, press play button to run the GUI.java program.
 - a. If not using Eclipse, edit all instances of "com.mysql.cj.jdbc.Driver" to be "com.mysql.jdbc.Driver" in the JDBCCmdLine.java file.
2. You will see the following interface:
3. To run a command, enter the parameters in the text field box if there are parameters, and press the button next to the textbox to run the corresponding command.
4. Here is how to run each command and how to enter the parameters:
 - a. SQL
 - i. <command>;

The screenshot shows a window titled "Entry" with a light gray background. At the top, there is a text input field containing "show tables;". To the right of this field is a button labeled "SQL". Below the input field, there are seven more empty text input fields stacked vertically. To the right of these fields are seven buttons: "Show Related Tables", "Search Path", "Search and Join", "STAT", "Find Column", "Show Top Spenders", and "Get View". Below these, there are three buttons: "Show Primary Keys", "Show Customer Sales", and "Products Per City". At the bottom, there is a button labeled "Show Product Ratings". At the very bottom of the window is a scrollable text area containing a list of database tables: "Tables_in_adventureworks", "address", "addresstype", "awbuildversion", "billofmaterials", "contact", "contactcreditcard", "contacttype", "countryregion", and "countryregioncurrency".

- b. Show Related Tables
i. <table name>

The screenshot shows a database query tool interface titled "Entry". It contains several input fields and buttons for various database operations. The "Show Related Tables" button is highlighted with a blue border. Below the buttons is a text area containing the text: customeraddress, individual, store, storecontact.

SQL

customer

Show Related Tables

Search Path

Search and Join

STAT

Find Column

Show Top Spenders

Get View

Products Per City

Show Primary Keys

Show Customer Sales

Customers by City

Show Product Ratings

customeraddress
individual
store
storecontact

c. Search Path

i. <table1> <table2>

customer product	Search Path
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The output will be printed to the text field.

d. Search and Join

i. <table1> <table2>

product vendor	Search and Join
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The output will be printed to the text field.

e. STAT

i. <table> <column name>

The screenshot shows a software window titled "Entry". It contains several input fields and buttons. The "STAT" button is highlighted with a blue border. Below the buttons is a table displaying statistical data.

MxValue	MinValue	AvgValue
104	1	52.5000
Median		
52.5000		

Below the table is a horizontal axis with values 0, 15, 30, 45, and 60. To the left of the axis are four ranges with corresponding asterisks:

- 1.00-18.17 | *****
- 18.17-35.33 | *****
- 35.33-52.50 | *****
- 52.50-69.67 | *****

- f. Show primary keys
 - i. There are no parameters; Click the button “ Show Primary Keys” to run.

The screenshot shows a window titled "Entry" with a light gray background. It features a vertical stack of eight text input fields on the left and a column of buttons on the right. The buttons are: "SQL", "Show Related Tables", "Search Path", "Search and Join", "STAT", "Find Column", "Show Top Spenders", and "Get View". Below these, there are three more buttons: "Show Primary Keys" (highlighted with a blue border), "Show Customer Sales", and "Customers by City". At the bottom, there is a button labeled "Show Product Ratings".

Below the buttons is a large text area containing the following list of primary keys:

- (vendoraddress, AddressID)
- (vendorcontact, VendorID)
- (vendorcontact, ContactID)
- (workorder, WorkOrderID)
- (workorderrouting, WorkOrderID)
- (workorderrouting, ProductID)
- (workorderrouting, OperationSequence)
- (sys_config, variable)

g. Customers by City

i. There are no parameters; Click the button “Customers by City” to run.

The screenshot shows a window titled "Entry" with a light gray background. At the top, there are three colored window control buttons (red, yellow, green) on the left. Below them is a horizontal bar with the title "Entry". The main area of the window contains several input fields and buttons. On the left, there are eight empty text input fields stacked vertically. To the right of these fields are buttons labeled "SQL", "Show Related Tables", "Search Path", "Search and Join", "STAT", "Find Column", "Show Top Spenders", and "Get View". Below these buttons are three more buttons: "Show Primary Keys", "Show Customer Sales", and "Customers by City" (which is highlighted with a blue border). Below the "Customers by City" button is a button labeled "Show Product Ratings". At the bottom of the window is a large text area containing a list of cities and their corresponding values, separated by a vertical bar. The list is as follows:

Sooke	97
Gateshead	55
Bury	56
Chatou	56
Royal Oak	94
Metchosin	96
San Carlos	88
Boulogne-Billancourt	15

h. Find Column

Entry

SQL

Show Related Tables

Search Path

Search and Join

STAT

VendorID

Find Column

Show Top Spenders

Get View

Products Per City

Show Primary Keys

Show Customer Sales

Customers by City

Show Product Ratings

COLUMN_NAME	TABLE_NAME
VendorID	productvendor
VendorID	purchaseorderheader
VendorID	vendor
VendorID	vendoraddress
VendorID	vendorcontact

i. Show Customer Sales

i. There are no parameters; Click the button “ Show Customer Sales” to run.

The screenshot shows a software window titled "Entry". It contains several input fields and buttons. The buttons are: "SQL", "Show Related Tables", "Search Path", "Search and Join", "STAT", "Find Column", "Show Top Spenders", "Get View", "Products Per City", "Customers by City", "Show Primary Keys", "Show Customer Sales" (highlighted with a blue border), and "Show Product Ratings".

991	113397.90000000001
992	145473.306
993	88126.368
994	12244.931999999999
996	39581.442
997	212540.064
998	504134.66400000005
999	433503.972

- j. Show Top Spenders (customers who spend the most)
 - i. Optional parameter: number of results you want to be shown. (ex: 3) → will show top 3 spenders/customers.

The screenshot shows a database query tool interface titled "Entry". It contains several input fields and buttons for database operations. The "Show Top Spenders" button is highlighted with a blue border. Below the buttons is a table showing the top 3 customers by amount spent.

CustomerID	AmountSpent
678	1179857.46
697	1179475.83
170	1134747.44

- ii. No parameters: Click the button “ Show Top Spenders” to run.

ID	Value
170	1134747.44
328	1084439.02
514	1074154.3
155	1045197.04
72	1005539.71
227	984324.04
433	983871.93
166	979881.34

k. Show Product Ratings

Entry

SQL

Show Related Tables

Search Path

Search and Join

STAT

Find Column

Show Top Spenders

Get View

Products Per City

Show Primary Keys

Show Customer Sales

Customers by City

Show Product Ratings

ProductID	Rating
937	4
709	5
798	5

I. Get View

- i. <view-name> <sql query>
- ii. Example entry: view_test select CustomerID, SalesOrderID, SubTotal from salesorderheader where SubTotal > 1000 order by CustomerID

The screenshot shows a software window titled "Entry" with a light gray background. It features several input fields and buttons arranged in a grid-like fashion. The input fields are white with thin gray borders. The buttons are light gray with rounded corners and black text. At the bottom, there is a large text area with a scrollbar on the right side, containing a SQL query. The query is: "SubTotal > 1000 order by CustomerID select CustomerID, SalesOrderID, SubTotal from salesorderheader where SubTotal > 1".

Entry

SQL

Show Related Tables

Search Path

Search and Join

STAT

Find Column

Show Top Spenders

Get View

Products Per City

Show Primary Keys

Show Customer Sales

Customers by City

Show Product Ratings

SubTotal
>
1000
order
by
CustomerID
select CustomerID, SalesOrderID, SubTotal from salesorderheader where SubTotal > 1

m. Products Per City

i. <ProductID> <City>

The screenshot shows a Java GUI window titled "Entry". It features a series of input fields on the left and a column of buttons on the right. The buttons are: "SQL", "Show Related Tables", "Search Path", "Search and Join", "STAT", "Find Column", "Show Top Spenders", "Get View", "Products Per City" (highlighted with a blue border), "Show Primary Keys", "Show Customer Sales", "Customers by City", and "Show Product Ratings". Below the buttons is a large text area containing the text: "There were 16 units sold of product id 998 in London".

5. After the button is clicked the output of the command will show up in the text area. Use the scroll bars to navigate through the output.

N. Get DbSchema

1. Ensure that your dot file for the database schema is in the same folder as your Java Gui code. This dot file will then be given to the Graphviz api to generate the corresponding pdf.

2. To do this in the GUI, click the GetDbSchema button. This will generate the schema.pdf in the same folder as your dot file.

Error Handling

- The error handling for invalid error input is that a message is printed to the terminal.