



SQL (STRUCTURED QUERY LANGUAGE)

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SQL STRUCTURED QUERY LANGUAGE

- SQL is a programming language used to manage and manipulate the database.
- In this database, we use one main operation called as CRUD operation.

C – Create or Insert

R – Read or Retrieve

U – Update or Modify

D – Delete or Drop

Overall Statements in SQL

- **DDL – Data Definition Language**

It is used to construct a object into the database. The 5 sub-statements of DDL are Create, Rename, Alter, Truncate and Drop

- **DML – Data Manipulation Language**

It is used to Insert, Update and Delete the record into the table

- **TCL – Transaction Control Language**

It is used to control the Transaction between the database. The 3 sub-statements are Commit, Save-point, Rollback.

- **DCL – Data Control Language**

It is used to control the Transaction between the Users. The 2 sub-statements are Grant and Revoke

DQL – Data Query Language

It is a process to Retrieve or Fetch the Data from the Database. The 4 sub-statements of DQL are Select, Projection, Selection and Joints.

Create database

File Edit View Query Database Server Tools Scripting Help

SQl SQL Navigator

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

Administration Schemas

No object selected

Information

Output:

Action Output

#	Time	Action
1	21:48:59	create database project1

Message

1 row(s) affected

Duration / Fetch 0.015 sec

Object Info Session

SQL Additions:

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

sql 1st SQL File 3* SQL File 4*

Limit to 500 rows

Jump to

Table : samplesuperstore

File Edit View Query Database Server Tools Scripting Help

SQl SQL Query Editor Database Object Browser

Navigator Schemas

SCHEMAS

Filter objects

comp company compy project1

Tables Views Stored Procedures Functions

sql112 sys

sql 1st SQL File 3* SQL File 4*

1 • create database project1;
2 • use project1;
3 • show tables;
4 • select * from samplesuperstore;

Result Grid Filter Rows: Export: Wrap Cell Content: Fetch rows:

Ship Mode	Segment	Country	City	State	Postal Code	Region	Category
Second Class	Consumer	United States	Henderson	Kentucky	42420	South	Furniture
Second Class	Consumer	United States	Henderson	Kentucky	42420	South	Furniture
Second Class	Corporate	United States	Los Angeles	California	90036	West	Office Supplies
Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Furniture
Standard Class	Consumer	United States	Fort Lauderdale	Florida	33311	South	Office Supplies
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Furniture
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Technology
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies
Standard Class	Consumer	United States	Los Angeles	California	90032	West	Office Supplies

Result Grid Form Editor Field Types

Administration Schemas

Information

Schema: project1

samplesuperstore1 x

Output:

Action Output

#	Time	Action	Message	Duration / Fetch
3	21:53:00	SHOW SESSION VARIABLES LIKE 'lower_case_table_names'	OK	0.000 sec
4	21:53:05	CREATE TABLE 'project1'.samplesuperstore ('Ship Mode' text, 'Segment' text, 'Country' text, 'City' text, 'Stat...	OK	0.000 sec
5	21:53:05	PREPARE stmt FROM 'INSERT INTO 'project1'.samplesuperstore ('Ship Mode', 'Segment', 'Country', 'City', 'St...	OK	0.000 sec
6	21:54:14	DEALLOCATE PREPARE stmt	OK	0.000 sec
7	21:54:17	use project1	0 row(s) affected	0.000 sec
8	21:54:21	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

1) Write a query to display city and state in the samplesuperstore

The screenshot shows the SSMS interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New Query, Open, Save, Print, Copy, Paste, Find, Replace, and others.
- Navigator:** Shows the schema tree under "SCHEMAS". The "project1" database is selected, displaying its Tables, Views, Stored Procedures, and Functions. Other databases like "comp", "company", "compy", "sql112", and "sys" are also listed.
- Query Editor:** Contains four tabs: "sql 1st", "SQL File 3*", and "SQL File 4*" (active). The "SQL File 4*" tab contains the following SQL script:

```
1 •  create database project1;
2 •  use project1;
3 •  show tables;
4 •  select * from samplesuperstore;
5 •  select City,State
   from samplesuperstore;
```
- Result Grid:** Displays the results of the last query. The columns are "City" and "State". The data shows multiple rows for Henderson (Kentucky), Fort Lauderdale (Florida), and Los Angeles (California).

City	State
Henderson	Kentucky
Henderson	Kentucky
Los Angeles	California
Fort Lauderdale	Florida
Fort Lauderdale	Florida
Los Angeles	California
- Result Grid Panel:** A vertical panel on the right side of the result grid, containing buttons for "Result Grid", "Form Editor", and "Field Types".
- Status Bar:** Shows "Schema: project1" and "samplesuperstore2 x". It also displays the "Output" section with "Action Output" and a log of actions taken during the session.
- Action Output Log:** A table showing the history of actions taken by the user.

#	Time	Action	Message	Duration / Fetch
5	21:53:05	PREPARE stmt FROM 'INSERT INTO 'project1''.samplesuperstore' ('Ship Mode', 'Segment', 'Country', 'City', 'St...	OK	0.000 sec
6	21:54:14	DEALLOCATE PREPARE stmt	OK	0.000 sec
7	21:54:17	use project1	0 row(s) affected	0.000 sec
8	21:54:21	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
9	21:58:09	use project1	0 row(s) affected	0.000 sec
10	21:58:16	select City,State from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec

2) Write a query to display sales in the samplesuperstore

The screenshot shows the SSMS interface with the following details:

- File Edit View Query Database Server Tools Scripting Help**: The top menu bar.
- Navigator**: Shows the database structure under **SCHEMAS**, including **project1** which contains **Tables**, **Views**, **Stored Procedures**, and **Functions**.
- SQL File 4***: The active query editor window containing the following T-SQL code:

```
2 • use project1;
3 • show tables;
4 • select * from samplesuperstore;
5 • select City,State
   from samplesuperstore;
6 • select Sales
   from samplesuperstore;
```
- Result Grid**: The results pane displaying the value of the **Sales** column from the **samplesuperstore** table. The results are:

Sales
261.96
731.94
14.62
957.5775
22.368
48.86
7.28
907.152
18.504
114.9
1706.184
911.424
- SQL Additions**: A panel on the right with the message: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Action Output**: A table showing the history of actions taken during the session:

#	Time	Action	Message	Duration / Fetch
22	22:55:13	use project1	0 row(s) affected	0.000 sec
23	22:55:20	select profit from samplesuperstore where City='Colmbia' LIMIT 0, 500	0 row(s) returned	0.000 sec / 0.000 sec
24	22:55:53	use project1	0 row(s) affected	0.000 sec
25	22:55:58	select Profit from samplesuperstore where City='Colmbia' LIMIT 0, 500	0 row(s) returned	0.015 sec / 0.000 sec
26	22:57:15	use project1	0 row(s) affected	0.000 sec
27	22:57:21	select Sales from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
- Object Info** and **Session**: Buttons at the bottom left.

3) Write a query to display sales of state florida in the samplesuperstore

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for SQL, Scripts, Tables, Views, Procedures, Functions, and other database management tools.
- Navigator:** Shows the schema tree under "SCHEMAS". The "project1" schema is expanded, showing Tables, Views, Stored Procedures, and Functions. Other schemas listed include comp, company, compy, sql112, and sys.
- SQL Editor:** Contains the following SQL code:

```
10  from samplesuperstore ;
11  •  select State,Sales
12    from samplesuperstore
13    where Region='East';
14  •  select Sales
15    from samplesuperstore
16    where State='florida';
```
- Result Grid:** Displays the results of the query, showing a single column "Sales" with values:

957.5775
22.368
95.616
233.86
620.6145
5.328
258.072
617.976
254.058
194.528
961.48
178.384
- SQL Additions:** A message states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Action Output:** Shows the history of actions taken in the session:

#	Time	Action
3	12:35:07	select Sales from samplesuperstore where State='florida' LIMIT 0, 500
4	12:36:32	from samplesuperstore
5	12:36:34	from samplesuperstore
6	12:37:04	select * from samplesuperstore LIMIT 0, 500
7	12:37:57	use project1
8	12:38:03	select Sales from samplesuperstore where State='florida' LIMIT 0, 500
- Message Log:** Shows log entries for each action, mostly errors related to the missing "State" column in the query.

Message	Duration / Fetch
383 row(s) returned	0.000 sec / 0.000 sec
Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
500 row(s) returned	0.000 sec / 0.000 sec
0 row(s) affected	0.000 sec
383 row(s) returned	0.000 sec / 0.000 sec

4) Write a query to display sales & sub-category where profit is greater than 150 in samplesuperstore

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for SQL, Scripts, Tables, Views, Procedures, Functions, and Utilities.
- Navigator:** Shows the current schema is "project1". Other schemas listed include comp, company, compy, sql112, and sys.
- SQL Editor:** Contains the following SQL code:

```
13  where Region='East';
14 •  select Sales
15  from samplesuperstore
16  where State='florida';
17 •  select Sales, 'sub-category'
18  from samplesuperstore
19  where Profit > 150;
```

The line "select Sales, 'sub-category'" is highlighted.
- Result Grid:** Displays the results of the query:

Sales	sub-category
731.94	sub-category
1044.63	sub-category
1029.95	sub-category
787.53	sub-category
839.43	sub-category
1951.84	sub-category
944.93	sub-category
2001.86	sub-category
1503.25	sub-category
3347.37	sub-category
361.92	sub-category
725.84	sub-category
- Output Window:** Shows the execution history and log messages:

Action	Message	Duration / Fetch
from samplesuperstore	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
use project1	0 row(s) affected	0.000 sec
select Sales from samplesuperstore where State='florida' LIMIT 0, 500	383 row(s) returned	0.000 sec / 0.000 sec
use project1	0 row(s) affected	0.000 sec
select Sales,'sub-category'from samplesuperstore where Profit > 150 LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec

5) Write a query to display sales , sub-category and profit with deduction of 25% & hike of 25%

The screenshot shows the SQL Server Management Studio (SSMS) interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New Query, Open, Save, Print, and others.
- Navigator:** Shows the database structure under "SCHEMAS".
 - comp
 - company
 - compy
 - project1** (selected)
 - Tables
 - Views
 - Stored Procedures
 - Functions
- sql112
- sys

- Query Editor:** Contains three tabs: sql 1st, SQL File 3*, and SQL File 4*. The SQL File 4* tab is active, displaying the following T-SQL code:

```
12  from samplesuperstore
13  where Region='East';
14  •  select Sales
15  from samplesuperstore
16  where State='florid';
17  •  select 'sub-category',Sales,Profit+Profit*25/100
18  from samplesuperstore;
```
- Result Grid:** Displays the query results in a grid format. The columns are "sub-category", "Sales", and "Profit+Profit*25/100". The data includes:

sub-category	Sales	Profit+Profit*25/100
sub-category	261.96	52.392
sub-category	731.94	274.47749999999996
sub-category	14.62	8.58925
sub-category	957.5775	-478.78875
sub-category	22.368	3.1455
sub-category	48.86	17.71175
sub-category	7.28	2.457
sub-category	907.152	113.394
sub-category	18.504	7.228124999999995
sub-category	114.9	43.0875
sub-category	1706.184	106.63650000000001
sub-category	911.424	85.44600000000001
- Action Output:** Shows the history of actions taken during the session:

#	Time	Action	Message	Duration / Fetch
9	13:01:08	use project1	0 row(s) affected	0.000 sec
10	13:01:14	select Sales,'sub-category' from samplesuperstore where Profit > 150 LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
11	13:17:45	use project1	0 row(s) affected	0.000 sec
12	13:17:59	select 'sub-category'.Sales,Profit+Profit*25/100 from samplesuperstoer LIMIT 0, 500	Error Code: 1146. Table 'project1.samplesuperstoer' doesn't exist	0.000 sec
13	13:18:29	use project1	0 row(s) affected	0.000 sec
14	13:18:33	select 'sub-category'.Sales,Profit+Profit*25/100 from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.016 sec / 0.000 sec
- Output:** Shows the output of the last action (Action 14). It includes "Action Output" and "Message" sections.
- Object Info:** Shows the current object selected: "No object selected".
- Session:** Shows the current session information.

6) Write a query to display profit of city fort Lauderdale in samplesuperstore

The screenshot shows the SSMS interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New Query, Open, Save, Print, and others.
- Navigator:** Shows the current database context is "samplesuperstore".
- Schemas:** Lists available schemas: comp, company, compy, project1 (selected), sql112, sys.
- SQL Editor:** Contains the following T-SQL script:

```
14 • select Sales  
15   from samplesuperstore  
16  where State='florida';  
17 • select Profit  
18   from samplesuperstore  
19  where city='Fort Lauderdale';  
20
```
- Result Grid:** Displays the results of the last query (selecting Profit). The results are:

Profit
-383.031
2.5164
3.6288
5.7312
-29.4368
8.2848
-5.176
58.464
130.2885
14.595
-114.3534
239.976
- SQL Additions:** A note stating "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Action Output:** Shows the execution history of the session:

#	Time	Action	Message	Duration / Fetch
25	14:55:10	select profit from samplesuperstore where city='Fort Lauderdale' LIMIT 0, 500	0 row(s) returned	0.000 sec / 0.000 sec
26	14:55:58	use project1	0 row(s) affected	0.000 sec
27	14:56:09	select Profit from samplesuperstore where city='Fort Lauderdale' LIMIT 0, 500	0 row(s) returned	0.016 sec / 0.000 sec
28	14:56:21	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
29	14:56:50	use project1	0 row(s) affected	0.000 sec
30	14:56:56	select Profit from samplesuperstore where city='Fort Lauderdale' LIMIT 0, 500	15 row(s) returned	0.000 sec / 0.000 sec

7) Write a query to display sales by region & country in the samplesuperstore

The screenshot shows the SSMS interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New Query, Open, Save, Copy, Paste, Find, Replace, and others.
- Navigator:** Shows the schema tree under "SCHEMAS". The "project1" node is expanded, showing Tables, Views, Stored Procedures, and Functions. Other nodes include comp, company, compy, sql112, and sys.
- Query Editor:** Contains four tabs: "sql 1st", "SQL File 3*", and "SQL File 4*" (active). The query in "SQL File 4*" is:

```
17 • select Profit
18   from samplesuperstore
19   where city='Fort Lauderdale';
20 • select Region,Country,sum(Sales)
21   from samplesuperstore
22   group by Region,Country;
23
```
- Result Grid:** Displays the results of the last query:

Region	Country	sum(Sales)
South	United States	391721.9050000003
West	United States	725457.8245000006
Central	United States	501239.8908000005
East	United States	678781.2399999979
- SQL Additions:** A note states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Output Window:** Labeled "Result 13" (closed), "Output" (closed), and "Action Output" (open). It lists the following actions and their results:

#	Time	Action	Message	Duration / Fetch
31	15:07:04	use project1	0 row(s) affected	0.000 sec
32	15:07:11	select Shipmode,Sales from samplesuperstore GROUP BY Shipmode LIMIT 0, 500	Error Code: 1054. Unknown column 'Shipmode' in field list'	0.000 sec
33	15:08:49	use project1	0 row(s) affected	0.000 sec
34	15:09:03	select region,country,sales from samplesuperstore group by region,country LIMIT 0, 500	Error Code: 1055. Expression #3 of SELECT list is not in GROUP BY clause and contains nonaggregated colu...	0.000 sec
35	15:10:45	use project1	0 row(s) affected	0.000 sec
36	15:10:48	select Region,Country,sum(Sales) from samplesuperstore group by Region,Country LIMIT 0, 500	4 row(s) returned	0.015 sec / 0.000 sec
- Bottom Navigation:** Object Info, Session.

8) Write a query to display total quantity sold by state in the samplesuperstore

Schemas

Filter objects

comp
company
compy
project1
Tables
Views
Stored Procedures
Functions
sql112
sys

File Edit View Query Database Server Tools Scripting Help

SQL File 1* SQL File 3* SQL File 4* x

21 from samplesuperstore
22 group by Region,Country;
23 • select State,sum(Quantity)
24 from samplesuperstore
25 group by State;

Result Grid | Filter Rows: Export: Wrap Cell Content: Result Grid Form Editor Field Types

State	sum(Quantity)
Kentucky	523
California	7667
Florida	1379
North Carolina	983
Washington	1883
Texas	3724
Wisconsin	463
Utah	219
Nebraska	136
Pennsylvania	2153
Illinois	1845
Minnesota	331

Administration Schemas

Information

No object selected

Result 14 x Read Only Context Help Snippets

Action Output

#	Time	Action	Message	Duration / Fetch
33	15:08:49	use project1	0 row(s) affected	0.000 sec
34	15:09:03	select region,country,sales from samplesuperstore group by region,country LIMIT 0, 500	Error Code: 1055. Expression #3 of SELECT list is not in GROUP BY clause and contains nonaggregated colu...	0.000 sec
35	15:10:45	use project1	0 row(s) affected	0.000 sec
36	15:10:48	select Region,Country,sum(Sales) from samplesuperstore group by Region,Country LIMIT 0, 500	4 row(s) returned	0.015 sec / 0.000 sec
37	15:18:40	use project1	0 row(s) affected	0.000 sec
38	15:18:46	select State,sum(Quantity) from samplesuperstore group by State LIMIT 0, 500	49 row(s) returned	0.016 sec / 0.000 sec

Object Info Session

9) Write a query to display average discount by segment

The screenshot shows the SSMS interface with the following details:

- Toolbar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Schemas Navigator:** Shows SCHEMAS, Filter objects, and a list of databases: comp, company, compy, project1 (selected), sql112, sys.
- Query Editor:** SQL File 4* tab is active. The query is:

```
24  from samplesuperstore
25  group by State;
26  • select Segment,avg(Discount)
27  from samplesuperstore
28  group by Segment;
29
30
```
- Result Grid:** Displays the output of the query:

Segment	avg(Discount)
Consumer	0.15814101329224042
Corporate	0.15822847682118915
Home Office	0.14712843522153524
- SQL Additions:** A message states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Action Output:** Shows the history of actions taken in the session:

#	Time	Action	Message	Duration / Fetch
38	15:18:46	select State,sum(Quantity) from samplesuperstore group by State LIMIT 0, 500	49 row(s) returned	0.016 sec / 0.000 sec
39	15:23:26	use project1	0 row(s) affected	0.000 sec
40	15:23:42	select avg(Sales) from(select Customer,sum(Sales) from samplesuperstore group by Customer)AS avg_Sale	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
41	15:24:37	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
42	15:30:12	use project1	0 row(s) affected	0.000 sec
43	15:30:19	select Segment,avg(Discount) from samplesuperstore group by Segment LIMIT 0, 500	3 row(s) returned	0.016 sec / 0.000 sec
- Status Bar:** Result 16, Read Only, Context Help, Snippets.
- Bottom Navigation:** Object Info, Session.

10) Write a query to display quantity sold by state & city in California state

The screenshot shows the MySQL Workbench interface with the following details:

- File Edit View Query Database Server Tools Scripting Help** - Top menu bar.
- Navigator** - Left sidebar showing SCHEMAS: comp, company, compy, project1 (selected), sql112, sys.
- SQL Editor**:
 - Query tabs: sql 1st, SQL File 3*, SQL File 4* (selected).
 - SQL code:

```
28 group by Segment;
29 • select City,sum(Quantity)
30 from samplesuperstore
31 where State='California'
32 group by City;
```
 - Message bar: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Result Grid**:

City	sum(Quantity)
Los Angeles	2879
San Francisco	1935
Roseville	55
Pasadena	97
San Jose	159
Redlands	61
Whittier	4
Santa Clara	23
San Diego	670
Brentwood	66
Inglewood	53
Long Beach	114
- Action Output**:

#	Time	Action	Message	Duration / Fetch
40	15:23:42	ect avg(Sales) from(select Customer,sum(Sales) from samplesuperstore group by Customer)AS avg_Sale	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
41	15:24:37	select * from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
42	15:30:12	use project1	0 row(s) affected	0.000 sec
43	15:30:19	select Segment,avg(Discount) from samplesuperstore group by Segment LIMIT 0, 500	3 row(s) returned	0.016 sec / 0.000 sec
44	15:35:41	use project1	0 row(s) affected	0.000 sec
45	15:35:51	select City,sum(Quantity) from samplesuperstore where State='California' group by City LIMIT 0, 500	81 row(s) returned	0.000 sec / 0.000 sec

11) Write a query to display average sales in the table samplesuperstore

The screenshot shows the SSMS interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New Query, Open, Save, Copy, Paste, and Execute.
- Navigator:** Shows the schema tree under "project1".
- Query Editor:** Contains two queries:

```
29 • select City,sum(Quantity)
30   from samplesuperstore
31   where State='California'
32   group by City;
33 • select avg(Sales)
34   from samplesuperstore
35
```
- Result Grid:** Displays the output of the second query:

avg(Sales)
229.8580008304938
- SQL Additions:** A note stating "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Output Window:** Shows the execution history for session 18, including the creation of project1 and the execution of various queries.
- Status Bar:** Shows "Object Info" and "Session".

12) Write a query to display 6 states by sales in west region in the samplesuperstore

The screenshot shows the SSMS interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New Query, Open, Save, Print, and others.
- Navigator:** Shows the **SCHEMAS** node with **project1** selected, containing Tables, Views, Stored Procedures, and Functions. Other nodes like comp, company, compy, sq|112, and sys are also listed.
- Query Editor:** Tab titled "SQL File 4*" contains the following T-SQL script:

```
35 •    select State,sum(Sales)
36     from samplesuperstore
37     where Region='West'
38     group by State
39     order by sum(Sales)
40     desc limit 6;
41
```
- Result Grid:** Displays the query results in a grid format:

State	sum(Sales)
California	457687.631500001
Washington	138641.26999999993
Arizona	35282.001
Colorado	32108.11799999995
Oregon	17431.14999999999
Nevada	16729.102
- SQL Additions:** A message states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Action Output:** Shows the history of actions taken during the session:

#	Time	Action	Message	Duration / Fetch
47	15:40:04	select avg(Sales) from samplesuperstore LIMIT 0, 500	1 row(s) returned	0.000 sec / 0.000 sec
48	15:42:51	use project1	0 row(s) affected	0.000 sec
49	15:42:57	select avg(Sales) from samplesuperstore LIMIT 0, 500	1 row(s) returned	0.000 sec / 0.000 sec
50	15:46:25	use project1	0 row(s) affected	0.000 sec
51	15:46:25	use project1	0 row(s) affected	0.000 sec
52	15:47:03	select State,sum(Sales) from samplesuperstore where Region='West' group by State order by sum(Sales) desc li...	6 row(s) returned	0.015 sec / 0.000 sec

13) Write a query to display sales by category & sub-category in the samplesuperstore

The screenshot shows the SSMS interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New Query, Open, Save, Print, Copy, Paste, Find, Replace, and others.
- Navigator:** Shows the schema tree under "SCHEMAS".
 - Filter objects
 - comp
 - company
 - compy
 - project1** (selected)
 - Tables
 - Views
 - Stored Procedures
 - Functions
- sql112
- sys

- Query Editor:** Contains the following T-SQL code:

```
37 where Region='West'
38 group by State
39 order by sum(Sales)
40 desc limit 6;
41 • select Category,'Sub-category',sum(Sales)
42 from samplesuperstore
43 group by Category,'Sub-category';
--
```
- Result Grid:** Displays the query results:

Category	Sub-category	sum(Sales)
Furniture	Sub-category	741999.7952999998
Office Supplies	Sub-category	719047.0320000029
Technology	Sub-category	836154.032999996
- SQL Additions:** A message states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Result Grid Panel:** Shows options for Result Grid, Form Editor, and Field Types.
- Output Window:** Shows the execution history for the session:

Action	Message	Duration / Fetch
select avg(Sales) from samplesuperstore LIMIT 0.500	1 row(s) returned	0.000 sec / 0.000 sec
use project1	0 row(s) affected	0.000 sec
use project1	0 row(s) affected	0.000 sec
select State,sum(Sales) from samplesuperstore where Region='West' group by State order by sum(Sales) desc li...	6 row(s) returned	0.015 sec / 0.000 sec
use project1	0 row(s) affected	0.000 sec
select Category,'Sub-category',sum(Sales) from samplesuperstore group by Category,'Sub-category' LIMIT 0.500	3 row(s) returned	0.016 sec / 0.000 sec
- Information:** Shows "No object selected".
- Object Info and Session:** Standard SSMS tabs at the bottom.

14) Write a query to display top 3 customer by sales in the samplesuperstore

The screenshot shows the SSMS interface with the following details:

- Toolbar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Schemas:** Filter objects, project1 (selected), comp, company, compy, sq|112, sys.
- Query Editor:** SQL File 4* contains the following T-SQL code:

```
43 group by Category,'Sub-category';
44 • select City,sum(Sales)
45 from samplesuperstore
46 group by City
47 order by sum(Sales)
48 desc limit 3;
49
```
- Result Grid:** Displays the results of the query:

City	sum(Sales)
New York City	256368.161
Los Angeles	175851.341
Seattle	119540.742
- SQL Additions:** Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
- Action Output:** Shows the execution history of the session:

#	Time	Action	Message	Duration / Fetch
53	15:52:24	use project1	0 row(s) affected	0.000 sec
54	15:52:33	select Category,'Sub-category',sum(Sales) from samplesuperstore group by Category,'Sub-category' LIMIT 0, 500	3 row(s) returned	0.016 sec / 0.000 sec
55	15:56:16	use project1	0 row(s) affected	0.000 sec
56	15:56:24	select Category,sum(Profit) from samplesuperstore group by Category order by sum(Profit) desc limit 3	3 row(s) returned	0.016 sec / 0.000 sec
57	15:58:13	use project1	0 row(s) affected	0.000 sec
58	15:58:20	select City,sum(Sales) from samplesuperstore group by City order by sum(Sales) desc limit 3	3 row(s) returned	0.015 sec / 0.000 sec

15) Write a query to display total sales by city & region in the samplesuperstore

The screenshot shows the SQL Server Management Studio (SSMS) interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The toolbar contains various icons for file operations, queries, and database management. The Navigator pane on the left lists schemas like comp, company, compy, and project1, which contains Tables, Views, Stored Procedures, and Functions. The Object Explorer pane shows databases sql112 and sys.

The main area displays two tabs: SQL File 3* and SQL File 4*. SQL File 4* contains the following T-SQL code:

```
7 • select State,sum(Profit)  
8   from samplesuperstore  
9   group by State;  
10 • select Region,sum(Sales)  
11   from samplesuperstore  
12   group by Region;  
13  
^
```

The Result Grid shows the output of the second query:

Region	sum(Sales)
South	391721.9050000003
West	725457.8245000006
Central	501239.8908000005
East	678781.2399999979

A message in the status bar indicates: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

The bottom pane shows the execution history for the session:

Action	Time	Message	Duration / Fetch
use project1	18 16:27:03	0 row(s) affected	0.000 sec
select State,sum(Profit) from samplesuperstore group by State LIMIT 0, 500	19 16:27:07	49 row(s) returned	0.032 sec / 0.000 sec
use project1	20 16:38:15	0 row(s) affected	0.000 sec
select Shipmode,sum(Sales) from samplesuperstore group by Shipmode LIMIT 0, 500	21 16:38:22	Error Code: 1054. Unknown column 'Shipmode' in field list'	0.000 sec
use project1	22 16:39:57	0 row(s) affected	0.000 sec
select Region,sum(Sales) from samplesuperstore group by Region LIMIT 0, 500	23 16:40:01	4 row(s) returned	0.032 sec / 0.000 sec

16) Write a query to display profit by state in the samplesuperstore

The screenshot shows the SSMS interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New Query, Open, Save, Print, Copy, Paste, Find, Replace, and others.
- Navigator:** Shows the database structure under the schema **project1**, which contains Tables, Views, Stored Procedures, and Functions.
- SQL Editor:** Contains two tabs: **sql 1st** and **SQL File 4***. The **sql 1st** tab displays the following T-SQL code:

```
3 • select Segment, Shipmode,sum(Sales)
4   from samplesuperstore
5   where Segment='Consumer'
6   group by Shipmode;
7 • select State,sum(Profit)
8   from samplesuperstore
9   group by State;
```
- Result Grid:** Displays the results of the second query (selecting profit by state). The data is as follows:

State	sum(Profit)
Kentucky	11199.69660000005
California	76381.38710000017
Florida	-3399.3017
North Carolina	-7490.91220000003
Washington	33402.65169999995
Texas	-25729.3563
Wisconsin	8401.80039999998
Utah	2546.533500000005
Nebraska	2037.094200000007
Pennsylvania	-15559.960300000013
Illinois	-12607.88699999998
Minnesota	10823.1874

- SQL Additions:** A message states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Action Output:** Shows the execution history of the session, including the failed query (selecting by Shipmode) and successful queries (switching to project1, selecting by Category, selecting from samplesuperstore, using project1 again, and finally selecting by State).
- Object Info:** Shows the session details.

17) Write a query to display total profit by region in the samplesuperstore

The screenshot shows the SSMS interface with the following details:

- File, Edit, View, Query, Database, Server, Tools, Scripting, Help** menu bar.
- Navigator** pane on the left showing **SCHEMAS** (comp, company, compy, project1, sql112, sys) and **Tables**, **Views**, **Stored Procedures**, **Functions**.
- SQL File 4*** tab active in the center pane, containing the following SQL code:

```
7 • select State,sum(Profit)
8   from samplesuperstore
9   group by State;
10 • select Region,sum(Sales)
11   from samplesuperstore
12   group by Region;
13
```
- Result Grid** pane below the code, displaying the results of the second query:

Region	sum(Sales)
South	391721.9050000003
West	725457.8245000006
Central	501239.8908000005
East	678781.2399999979
- SQL Additions** pane on the right with the message: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Administration Schemas** tab at the bottom left.
- Information** tab at the bottom left.
- Schema: project1** tab at the bottom left.
- Result 7** tab at the bottom left.
- Action Output** pane at the bottom right showing the execution history of the session:

#	Time	Action	Message	Duration / Fetch
18	16:27:03	use project1	0 row(s) affected	0.000 sec
19	16:27:07	select State,sum(Profit) from samplesuperstore group by State LIMIT 0, 500	49 row(s) returned	0.032 sec / 0.000 sec
20	16:38:15	use project1	0 row(s) affected	0.000 sec
21	16:38:22	select Shipmode,sum(Sales) from samplesuperstore group by Shipmode LIMIT 0, 500	Error Code: 1054. Unknown column 'Shipmode' in field list'	0.000 sec
22	16:39:57	use project1	0 row(s) affected	0.000 sec
23	16:40:01	select Region,sum(Sales) from samplesuperstore group by Region LIMIT 0, 500	4 row(s) returned	0.032 sec / 0.000 sec
- Object Info** and **Session** tabs at the bottom left.

18) Write a query to display category name in uppercase and their original forms in the samplesuperstore

The screenshot shows the SSMS interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Toolbar:** Includes icons for New Query, Open, Save, Print, Copy, Paste, Find, Replace, and others.
- Navigator:** Shows the current schema is "project1".
- Query Editor:** Contains the following SQL code:

```
8   from samplesuperstore
9   group by State;
10  • select Region,sum(Sales)
11   from samplesuperstore
12   group by Region;
13  • select upper(Category),Category
14   from samplesuperstore
```
- Result Grid:** Displays the results of the query:

upper(Category)	Category
FURNITURE	Furniture
FURNITURE	Furniture
OFFICE SUPPLIES	Office Supplies
FURNITURE	Furniture
OFFICE SUPPLIES	Office Supplies
FURNITURE	Furniture
OFFICE SUPPLIES	Office Supplies
TECHNOLOGY	Technology
OFFICE SUPPLIES	Office Supplies
OFFICE SUPPLIES	Office Supplies
FURNITURE	Furniture
TECHNOLOGY	Technology
- SQL Additions:** A message states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Action Output:** Shows the execution history of the session:

#	Time	Action	Message	Duration / Fetch
20	16:38:15	use project1	0 row(s) affected	0.000 sec
21	16:38:22	select Shipmode,sum(Sales) from samplesuperstore group by Shipmode LIMIT 0, 500	Error Code: 1054. Unknown column 'Shipmode' in field list'	0.000 sec
22	16:39:57	use project1	0 row(s) affected	0.000 sec
23	16:40:01	select Region,sum(Sales) from samplesuperstore group by Region LIMIT 0, 500	4 row(s) returned	0.032 sec / 0.000 sec
24	16:43:41	use project1	0 row(s) affected	0.000 sec
25	16:43:46	select upper(Category),Category from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.016 sec / 0.000 sec

19) Write a query to display city in the samplesuperstore table that start with 'L'

The screenshot shows the MySQL Workbench interface with the following details:

- File**, **Edit**, **View**, **Query**, **Database**, **Server**, **Tools**, **Scripting**, **Help** menu.
- Navigator** pane: **SCHEMAS** (comp, company, compy, project1), **Tables**, **Views**, **Stored Procedures**, **Functions**, sq112, sys.
- SQL Editor** (sql 1st):

```
12 group by Region;
13 • select upper(Category),Category
14   from samplesuperstore
15 ✘ select City
16   from samplesuperstore
17   where city like 'L%';
18
```
- Result Grid**: Shows a single column "City" with multiple rows all containing "Los Angeles".
- SQLAdditions**: A note: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Action Output** pane:

#	Time	Action	Message	Duration / Fetch
27	16:47:44	use project1	0 row(s) affected	0.000 sec
28	16:47:49	select City from samplesuperstore where city='L%' LIMIT 0, 500	0 row(s) returned	0.016 sec / 0.000 sec
29	16:48:35	use project1	0 row(s) affected	0.000 sec
30	16:48:42	select City from samplesuperstore where city like ='L%'	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
31	16:49:15	use project1	0 row(s) affected	0.000 sec
32	16:49:19	select City from samplesuperstore where city like 'L%' LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec

20)Write a query to display length of the state name and states in the samplesuperstore

The screenshot shows the MySQL Workbench interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The Database tab is selected. The toolbar contains icons for SQL, DDL, Scripts, and other database operations. The Navigator pane shows the SCHEMAS section with 'project1' selected, containing Tables, Views, Stored Procedures, and Functions. Below it are 'sql112' and 'sys'. The main workspace has four tabs: 'sql 1st', 'SQL File 3*', and 'SQL File 4*' (which is active). The SQL code in 'SQL File 4*' is:

```
1 • use project1;
2 • select * from samplesuperstore;
3 select length(State),State
4 from samplesuperstore;
```

The Result Grid shows the output of the query:

length(State)	State
8	Kentucky
8	Kentucky
10	California
7	Florida
7	Florida
10	California

The bottom pane shows the Action Output log:

#	Time	Action	Message	Duration / Fetch
32	16:49:19	select City from samplesuperstore where city like 'L%' LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec
33	20:18:02	se project	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
34	20:18:08	use project1	0 row(s) affected	0.000 sec
35	20:18:18	select lenght(State),State from samplesuperstore LIMIT 0, 500	Error Code: 1305. FUNCTION project1.lenght does not exist	0.015 sec
36	20:19:04	use project1	0 row(s) affected	0.000 sec
37	20:19:09	select length(State),State from samplesuperstore LIMIT 0, 500	500 row(s) returned	0.000 sec / 0.000 sec