

1) Create a data pipeline using sqoop to pull the data from the table below from MYSQL server into Hive.

Transferring CSV files into local server.

```
[gyankrishnaagmail@ip-10-0-41-79 ~]$ ls
StockCompanies.csv  StockPrices.csv  Tl.txt
[gyankrishnaagmail@ip-10-0-41-79 ~]$
```

Logging into MySQL .

```
[gyankrishnaagmail@ip-10-0-41-79 ~]$ ls
StockCompanies.csv  StockPrices.csv  Tl.txt
[gyankrishnaagmail@ip-10-0-41-79 ~]$ mysql -h sqoopdb.slbdb.cloudlabs.com -u gyankrishnaagmail -pgyankrishnaagmailtltiyi
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 81515
Server version: 8.0.20 MySQL Community Server - GPL

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]>
```

creating table stock_companies and loading data

```
MySQL [gyankrishnaagmail]> CREATE TABLE stock_companies(
->     symbol VARCHAR(5),
->     company_name VARCHAR(38),
->     sector VARCHAR(27),
->     sub_industry VARCHAR(47),
->     headquarter VARCHAR(47),
->     Primary Key (symbol));
Query OK, 0 rows affected (0.02 sec)

MySQL [gyankrishnaagmail]>
MySQL [gyankrishnaagmail]> LOAD DATA LOCAL INFILE '/mnt/home/gyankrishnaagmail/StockCompanies.csv'
-> INTO TABLE stock_companies
-> FIELDS TERMINATED BY ','
-> OPTIONALLY ENCLOSED BY '"'
-> LINES TERMINATED BY '\r\n'
-> IGNORE 1 ROWS;
Query OK, 505 rows affected (0.03 sec)
Records: 505 Deleted: 0 Skipped: 0 Warnings: 0
```

CREATE TABLE stock_companies(

symbol VARCHAR(5),

company_name VARCHAR(38),

sector VARCHAR(27),

sub_industry VARCHAR(47),

headquarter VARCHAR(47),

Primary Key (symbol));

LOAD DATA LOCAL INFILE '/mnt/home/gyankrishnaagmail/StockCompanies.csv'

INTO TABLE stock_companies

FIELDS TERMINATED BY ','

OPTIONALLY ENCLOSED BY '"'

ESCAPED BY '\;

LINES TERMINATED BY '\r\n'

IGNORE 1 ROWS;

creating table stock_prices and loading data

```
MySQL [gyankrishnaagmail]> CREATE TABLE stock_prices (  
->         trading_date Date,  
->         symbol VARCHAR(5),  
->         open DOUBLE,  
->         close DOUBLE,  
->         low DOUBLE,  
->         high DOUBLE,  
->         volume INT  
->     );  
Query OK, 0 rows affected (0.05 sec)  
  
MySQL [gyankrishnaagmail]>  
MySQL [gyankrishnaagmail]> LOAD DATA LOCAL INFILE '/mnt/home/gyankrishnaagmail/StockPrices.csv'  
-> INTO TABLE stock_prices  
-> FIELDS TERMINATED BY ','  
-> ENCLOSED BY '"'  
-> LINES TERMINATED BY '\n'  
-> IGNORE 1 ROWS;  
Query OK, 851264 rows affected (6.04 sec)  
Records: 851264 Deleted: 0 Skipped: 0 Warnings: 0
```

CREATE TABLE stock_prices (

trading_date Date,

symbol VARCHAR(5),

open DOUBLE,

close DOUBLE,

low DOUBLE,

high DOUBLE,

volume INT

);

LOAD DATA LOCAL INFILE '/mnt/home/gyankrishnaagmail/StockPrices.csv'

INTO TABLE stock_prices

FIELDS TERMINATED BY ','

ENCLOSED BY '"'

LINES TERMINATED BY '\n'

IGNORE 1 ROWS;

Viewing loaded data

Stock_Companies

```
MySQL [gyankrishnaagmail]> select * from stock_companies;
```

symbol	company_name	sector	sub_industry
headquarter			
A	Agilent Technologies Inc Santa Clara; California	Health Care	Health Care Equipment
AAL	American Airlines Group Fort Worth; Texas	Industrials	Airlines
AAP	Advance Auto Parts Roanoke; Virginia	Consumer Discretionary	Automotive Retail
AAPL	Apple Inc. Cupertino; California	Information Technology	Computer Hardware
ABBV	AbbVie North Chicago; Illinois	Health Care	Pharmaceuticals
ABC	AmerisourceBergen Corp Chesterbrook; Pennsylvania	Health Care	Health Care Distributors
ABT	Abbott Laboratories North Chicago; Illinois	Health Care	Health Care Equipment
ACN	Accenture plc Dublin; Ireland	Information Technology	IT Consulting & Other Services
ADBE	Adobe Systems Inc San Jose; California	Information Technology	Application Software
ADI	Analog Devices; Inc. Norwood; Massachusetts	Information Technology	Semiconductors
ADM	Archer-Daniels-Midland Co	Consumer Staples	Agricultural Products

Stock_Prices

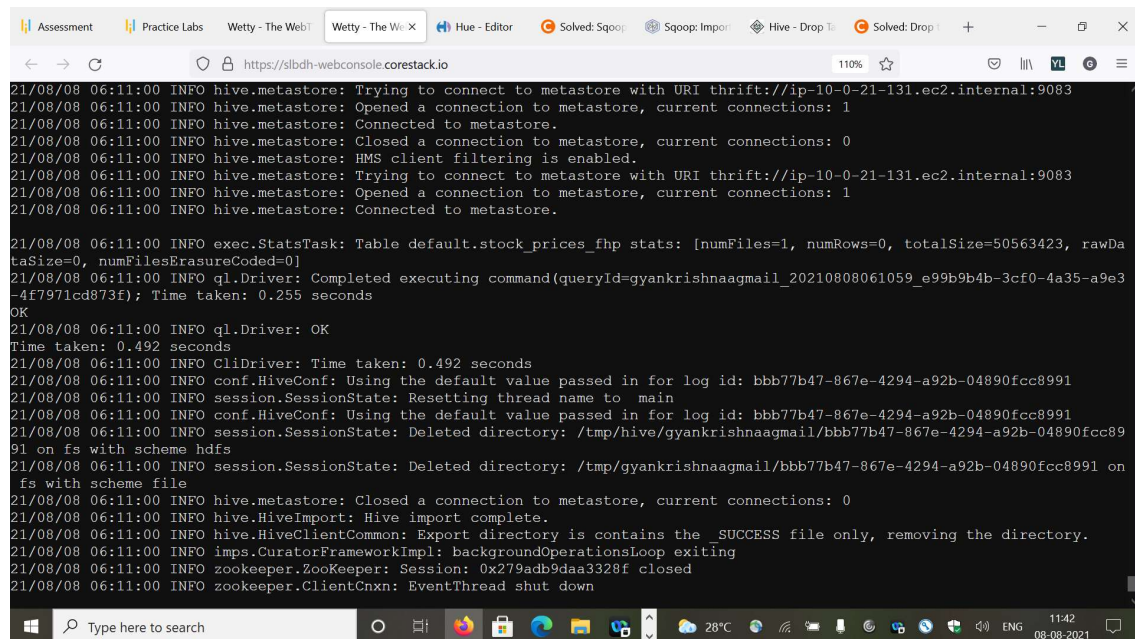
```
MySQL [gyankrishnaagmail]> Select * from stock_prices;
```

trading_date	symbol	open	close	low	high	volume
2016-01-05	WLTW	123.43	125.839996	122.309998	126.25	2163600
2016-01-06	WLTW	125.239998	119.980003	119.940002	125.540001	2386400
2016-01-07	WLTW	116.379997	114.949997	114.93	119.739998	2489500
2016-01-08	WLTW	115.480003	116.620003	113.5	117.440002	2006300
2016-01-11	WLTW	117.010002	114.970001	114.089996	117.330002	1408600
2016-01-12	WLTW	115.510002	115.550003	114.5	116.059998	1098000
2016-01-13	WLTW	116.459999	112.849998	112.589996	117.07	949600
2016-01-14	WLTW	113.510002	114.379997	110.050003	115.029999	785300
2016-01-15	WLTW	113.330002	112.529999	111.919998	114.879997	1093700
2016-01-19	WLTW	113.660004	110.379997	109.870003	115.870003	1523500
2016-01-20	WLTW	109.059998	109.300003	108.32	111.599998	1653900
2016-01-21	WLTW	109.730003	110	108.32	110.580002	944300
2016-01-22	WLTW	111.879997	111.949997	110.190002	112.949997	744900
2016-01-25	WLTW	111.32	110.120003	110	114.629997	703800
2016-01-26	WLTW	110.419998	111	107.300003	111.400002	563100
2016-01-27	WLTW	110.769997	110.709999	109.019997	112.57	896100
2016-01-28	WLTW	110.900002	112.580002	109.900002	112.970001	680400
2016-01-29	WLTW	113.349998	114.470001	111.669998	114.589996	749900
2016-02-01	WLTW	114	114.5	112.900002	114.849998	574200
2016-02-02	WLTW	113.25	110.559998	109.75	113.860001	694800
2016-02-03	WLTW	113.379997	114.050003	109.639999	114.639999	896300
2016-02-04	WLTW	114.080002	115.709999	114.080002	116.32	956300
2016-02-05	WLTW	115.120003	114.019997	109.709999	116.489998	997100
2016-02-08	WLTW	113.300003	111.160004	110.459999	113.300003	1200500
2016-02-09	WLTW	111.169998	110.650002	109.639999	112.110001	1725200

Pulling data from RDBMS via sqoop into hive

Stock_prices import

```
21/08/08 06:02:57 INFO hive.metastore: Connected to metastore.
[gyankrishnaagmail@ip-10-0-31-64 ~]$ sqoop import\
> --connect jdbc:mysql://sqoopdb.slbdh.cloudlabs.com/gyankrishnaagmail\
> --username gyankrishnaagmail\
> --password 'gyankrishnaagmailtltiyi'\
> --split-by symbol\
> --table stock_prices\
> --fields-terminated-by ','\
> --hive-import\
> --hive-table stock_prices_fhp -m 1;
Warning: /opt/cloudera/parcels/CDH-6.3.2-1.cdh6.3.2.p0.1605554/bin/../lib/sqoop/./accumulo does not exist! Accumulo imports will fail.
Please set $ACCUMULO_HOME to the root of your Accumulo installation.
SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/opt/cloudera/parcels/CDH-6.3.2-1.cdh6.3.2.p0.1605554/jars/slf4j-log4j12-1.7.25.jar!/org/slf4j/impl/StaticLoggerBinder.class]
```



```
21/08/08 06:11:00 INFO hive.metastore: Trying to connect to metastore with URI thrift://ip-10-0-21-131.ec2.internal:9083
21/08/08 06:11:00 INFO hive.metastore: Opened a connection to metastore, current connections: 1
21/08/08 06:11:00 INFO hive.metastore: Connected to metastore.
21/08/08 06:11:00 INFO hive.metastore: Closed a connection to metastore, current connections: 0
21/08/08 06:11:00 INFO hive.metastore: HMS client filtering is enabled.
21/08/08 06:11:00 INFO hive.metastore: Trying to connect to metastore with URI thrift://ip-10-0-21-131.ec2.internal:9083
21/08/08 06:11:00 INFO hive.metastore: Opened a connection to metastore, current connections: 1
21/08/08 06:11:00 INFO hive.metastore: Connected to metastore.

21/08/08 06:11:00 INFO exec.StatsTask: Table default.stock_prices_fhp stats: [numFiles=1, numRows=0, totalSize=50563423, rawDataSize=0, numFilesErasureCoded=0]
21/08/08 06:11:00 INFO ql.Driver: Completed executing command(queryId=gyankrishnaagmail_20210808061059_e99b9b4b-3cf0-4a35-a9e3-4ef7971cd873f); Time taken: 0.255 seconds
OK
21/08/08 06:11:00 INFO ql.Driver: OK
Time taken: 0.492 seconds
21/08/08 06:11:00 INFO CliDriver: Time taken: 0.492 seconds
21/08/08 06:11:00 INFO conf.HiveConf: Using the default value passed in for log id: bbb77b47-867e-4294-a92b-04890fcc8991
21/08/08 06:11:00 INFO session.SessionState: Resetting thread name to main
21/08/08 06:11:00 INFO conf.HiveConf: Using the default value passed in for log id: bbb77b47-867e-4294-a92b-04890fcc8991
21/08/08 06:11:00 INFO session.SessionState: Deleted directory: /tmp/hive/gyankrishnaagmail/bbb77b47-867e-4294-a92b-04890fcc8991 on fs with scheme hdfs
21/08/08 06:11:00 INFO session.SessionState: Deleted directory: /tmp/gyankrishnaagmail/bbb77b47-867e-4294-a92b-04890fcc8991 on fs with scheme file
21/08/08 06:11:00 INFO hive.metastore: Closed a connection to metastore, current connections: 0
21/08/08 06:11:00 INFO hive.HiveImport: Hive import complete.
21/08/08 06:11:00 INFO hive.HiveClientCommon: Export directory is contains the SUCCESS file only, removing the directory.
21/08/08 06:11:00 INFO impls.CuratorFrameworkImpl: backgroundOperationsLoop exiting
21/08/08 06:11:00 INFO zookeeper.ZooKeeper: Session: 0x279adb9daa3328f closed
21/08/08 06:11:00 INFO zookeeper.ClientCnxn: EventThread shut down
```

sqoop import\

--connect jdbc:mysql://sqoopdb.slbdh.cloudlabs.com/gyankrishnaagmail\

--username gyankrishnaagmail\

--password 'gyankrishnaagmailtltiyi'\

--split-by symbol\

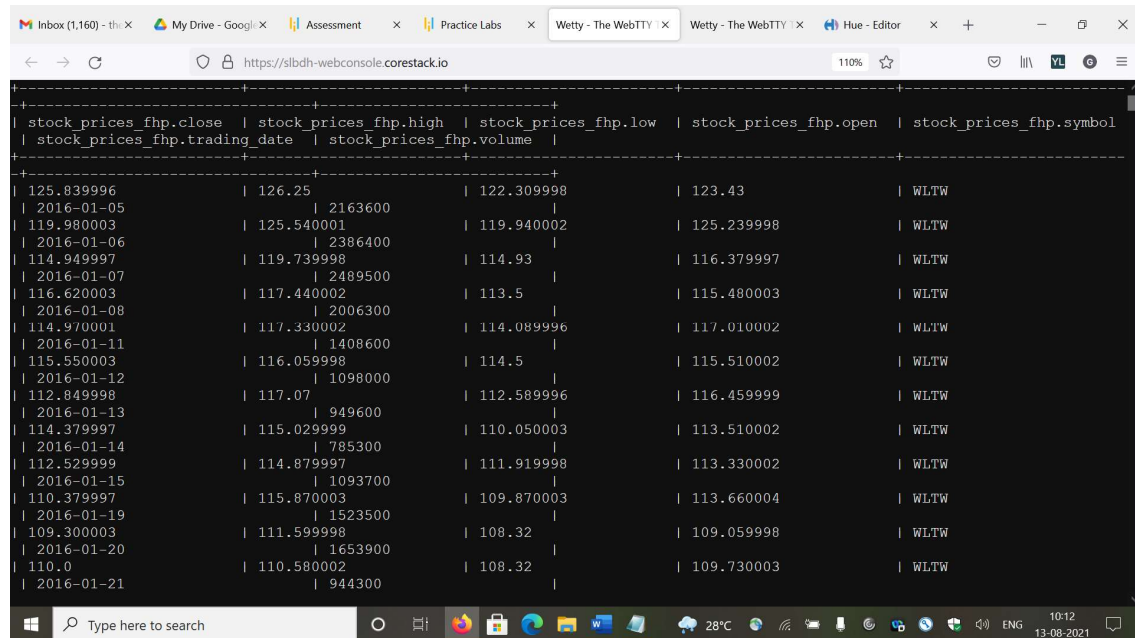
--table stock_prices\

--fields-terminated-by ','\

--hive-import\

--hive-table stock_prices_fhp -m 1;

Data after loading stock_prices



stock_prices_fhp.close	stock_prices_fhp.high	stock_prices_fhp.low	stock_prices_fhp.open	stock_prices_fhp.symbol
125.839996	126.25	122.309998	123.43	WLTW
2016-01-05	2163600			
119.980003	125.540001	119.940002	125.239998	WLTW
2016-01-06	2386400			
114.949997	119.739998	114.93	116.379997	WLTW
2016-01-07	2489500			
116.620003	117.440002	113.5	115.480003	WLTW
2016-01-08	2006300			
114.970001	117.330002	114.089996	117.010002	WLTW
2016-01-11	1408600			
115.550003	116.059998	114.5	115.510002	WLTW
2016-01-12	1098000			
112.849998	117.07	112.589996	116.459999	WLTW
2016-01-13	949600			
114.379997	115.029999	110.050003	113.510002	WLTW
2016-01-14	785300			
112.529999	114.879997	111.919998	113.330002	WLTW
2016-01-15	1093700			
110.379997	115.870003	109.870003	113.660004	WLTW
2016-01-19	1523500			
109.300003	111.599998	108.32	109.059998	WLTW
2016-01-20	1653900			
110.0	110.580002	108.32	109.730003	WLTW
2016-01-21	944300			

Similarly doing for other tables

sqoop import\

--connect jdbc:mysql://sqoopdb.slbdh.cloudlabs.com/gyankrishnaagmail\

--username gyankrishnaagmail\

--password 'gyankrishnaagmailtlyi'\

--split-by symbol\

--table stock_companies\

--fields-terminated-by ','\

--hive-import\

--hive-table stock_companies_fhp -m 1;

Data after loading stock_companies

```
Inbox (1,160) - th... My Drive - Google... Assessment Practice Labs Wetty - The WebTTY Hue - Editor how to clear screen + - 110%
https://slbdh-webconsole.corestack.io
Beeline version 2.1.1-cdh6.3.2 by Apache Hive
0: jdbc:hive2://ip-10-0-22-235.ec2.internal:1> select * from stock_companies_fhp;
INFO : Compiling command(queryId=hive_20210813044619_630bb971-1189-4d48-af51-ae7214fb0f72): select * from stock_companies_fhp
INFO : Semantic Analysis Completed
INFO : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:stock_companies_fhp.company_name, type:string, comment:nu
ll), FieldSchema(name:stock_companies_fhp.headquarter, type:string, comment:null), FieldSchema(name:stock_companies_fhp.sector
, type:string, comment:null), FieldSchema(name:stock_companies_fhp.sub_industry, type:string, comment:null), FieldSchema(name:
stock_companies_fhp.symbol, type:string, comment:null)], properties:null)
INFO : Completed compiling command(queryId=hive_20210813044619_630bb971-1189-4d48-af51-ae7214fb0f72); Time taken: 0.105 secon
ds
INFO : Executing command(queryId=hive_20210813044619_630bb971-1189-4d48-af51-ae7214fb0f72): select * from stock_companies_fhp
INFO : Completed executing command(queryId=hive_20210813044619_630bb971-1189-4d48-af51-ae7214fb0f72); Time taken: 0.0 seconds
INFO : OK

+-----+-----+-----+-----+
| stock_companies_fhp.company_name | stock_companies_fhp.headquarter | stock_companies_fhp.sector | stock_companies_fhp.sub_industry | stock_companies_fhp.symbol |
+-----+-----+-----+-----+
| Agilent Technologies Inc | Santa Clara; California | Health Care | Equipment | A |
| American Airlines Group | Fort Worth; Texas | Industrials | Airlines | AAL |
| Advance Auto Parts | Roanoke; Virginia | Consumer Discretionary | Automotive R | AAP |
| Apple Inc. | Cupertino; California | Information Technology | Computer Har | AAPL |
| AbbVie | North Chicago; Illinois | Health Care | Pharmaceuticals | ABBV |
| AmerisourceBergen Corp | Chesterbrook; Pennsylvania | Health Care | Health Care | ABC |
+-----+-----+-----+-----+
Type here to search 28°C 10:16 13-08-2021
```

```
Inbox (1,160) - th... My Drive - Google... Assessment Practice Labs Wetty - The WebTTY Hue - Editor how to clear screen + - 110%
https://slbdh-webconsole.corestack.io
+-----+-----+-----+-----+
| stock_companies_fhp.company_name | stock_companies_fhp.headquarter | stock_companies_fhp.sector | stock_companies_fhp.sub_industry | stock_companies_fhp.symbol |
+-----+-----+-----+-----+
| Agilent Technologies Inc | Santa Clara; California | Health Care | Equipment | A |
| American Airlines Group | Fort Worth; Texas | Industrials | Airlines | AAL |
| Advance Auto Parts | Roanoke; Virginia | Consumer Discretionary | Automotive R | AAP |
| Apple Inc. | Cupertino; California | Information Technology | Computer Har | AAPL |
| AbbVie | North Chicago; Illinois | Health Care | Pharmaceuticals | ABBV |
| AmerisourceBergen Corp | Chesterbrook; Pennsylvania | Health Care | Health Care | ABC |
| Abbott Laboratories | North Chicago; Illinois | Health Care | Health Care | ABT |
| Accenture plc | Dublin; Ireland | Information Technology | IT Consultin | ACN |
| Adobe Systems Inc | San Jose; California | Information Technology | Application | ADBE |
| Analog Devices; Inc. | Norwood; Massachusetts | Information Technology | Semiconducto | ADI |
| Archer-Daniels-Midland Co | Decatur; Illinois | Consumer Staples | Agricultural | ADM |
| Automatic Data Processing | Roseland; New Jersey | Information Technology | Internet Sof | ADP |
| Software & Services | Plano; Texas | Information Technology | Data Process | ADS |
+-----+-----+-----+-----+
Type here to search 28°C 10:16 13-08-2021
```


2) Create a new hive table with the following fields by joining the above two hive tables.
Please use appropriate Hive built-in functions for columns (a,b,e and h to l).

Creating table having all the fields from other two hive tables

```
CREATE TABLE stock_comp_pric_fhp(  
    trading_year string,  
    trading_month string,  
    symbol string,  
    company_name string,  
    state string,  
    sector string,  
    sub_industry string,  
    open double,  
    close double,  
    low double,  
    high double,  
    volume double)  
    row format delimited  
    FIELDS TERMINATED BY ','  
    LINES TERMINATED BY '\n'  
    stored as textfile  
    location "/tmp/gyankrishnaagmail/stock_comp_pric_fhp"
```

The top screenshot shows the Hue web interface with a SQL editor. The text in the editor is:

```

Add -- comments on top of the SQL statement to display a title

CREATE TABLE stock_comp_pric_fhp(
  trading_year string,
  trading_month string,
  symbol string,
  company_name string,
  state string,
  sector string,
  sub_industry string,
  open double,
  close double,
  low double,
  high double,
  volume double)
row format delimited
FIELDS TERMINATED BY ','
LINES TERMINATED BY '\n'
stored as textfile
location "/tmp/gyankrishnaagmail/stock_comp_pric_fhp"

```

The bottom screenshot shows the same interface after executing a command. The command bar shows:

```

drop table stock_comp_pric_fhp;

```

The output pane shows the following log:

```

INFO : Executing command(queryId=hive_20210815142840_ffea31e-1cb6-499a-b25a-f98167c1a7f0): drop table stock_comp_pric_fhp
INFO : Starting task [Stage-0:DDL] in serial mode
INFO : Completed executing command(queryId=hive_20210815142840_ffea31e-1cb6-499a-b25a-f98167c1a7f0); Time taken: 0.073 seconds
INFO : OK

```

The success message "Success." is displayed. The query history shows the executed commands:

```

an hour ago ✓ drop table stock_comp_pric_fhp;
an hour ago ✓ select * from stock_comp_pric_fhp;

```

Inserting data into the table using appropriate hive functions

INSERT INTO stock_comp_pric_fhp

SELECT year(P.trading_date),

month(P.trading_date),C.symbol,C.company_name,

split(C.headquarter,',')[1],

C.sector,C.sub_industry,avg(P.open),avg(P.close),

avg(P.low),avg(P.high) AS high,avg(P.volume) AS volume


```

FROM fhp.stock_companies_fhp C,
fhp.stock_prices_fhp P
WHERE C.symbol = P.symbol
GROUP BY year(P.trading_date),month(P.trading_date),
C.symbol,C.company_name,C.headquarter,C.sector,C.sub_industry;

```

Add -- comments on top of the SQL statement to display a title

```

INSERT INTO stock_comp_pric_fhp
SELECT year(P.trading_date) ,
month(P.trading_date),C.symbol,C.company_name,
split(C.headquarter,' ')[1],
C.sector,C.sub_industry,avg(P.open),avg(P.close),
avg(P.low),avg(P.high) AS high,avg(P.volume) AS volume
FROM fhp.stock_companies_fhp C,
fhp.stock_prices_fhp P
WHERE C.symbol = P.symbol
GROUP BY year(P.trading_date),month(P.trading_date),
C.symbol,C.company_name,C.headquarter,C.sector,C.sub_industry;

```

35.8s Database default Type text ?

```

1 INSERT INTO stock_comp_pric_fhp
2 SELECT year(P.trading_date) ,
3 month(P.trading_date),C.symbol,C.company_name,
4 split(C.headquarter,' ')[1],
5 C.sector,C.sub_industry,avg(P.open),avg(P.close),
6 avg(P.low),avg(P.high) AS high,avg(P.volume) AS volume
7 FROM fhp.stock_companies_fhp C,
8 fhp.stock_prices_fhp P
9 WHERE C.symbol = P.symbol
10 GROUP BY year(P.trading_date),month(P.trading_date),
11 C.symbol,C.company_name,C.headquarter,C.sector,C.sub_industry;

```

SS

INFO : Total MapReduce CPU Time Spent: 24 seconds 820 msec

INFO : Completed executing command(queryId=hive_20210815153157_72d4811d-8e15-4b2f-982a-68b63f733eae); Time taken: 35.849 seconds

INFO : OK

✓ Success.

Query History Saved Queries

a minute ago ✓ INSERT INTO stock_comp_pric_fhp SELECT year(P.trading_date) , month(P.trading_date),C.symbol,C.compa
split(C.headquarter,' ')[1],C.sector,C.sub_industry,avg(P.open),avg(P.close);

Tables

Filter...

- i fhp.stock_companies_fhp
- i fhp.stock_prices_fhp

Selecting all data after loading the data

Query: `select * from stock_comp_pric_fhp;`

Results (100+):

	stock_comp_pric_fhp.trading_year	stock_comp_pric_fhp.trading_month	stock_comp_pric_fhp.symbol	stock_comp_pric_fhp.price
1	2010	1	A	Agilent Technol
2	2010	1	AAL	American Airline
3	2010	1	AAP	Advance Auto Pi

Query: `select * from stock_comp_pric_fhp;`

Results (100+):

	stock_comp_pric_fhp.trading_year	stock_comp_pric_fhp.trading_month	stock_comp_pric_fhp.symbol	stock_comp_pric_fhp.price
1	2010	1	A	Agilent Technol
2	2010	1	AAL	American Airline
3	2010	1	AAP	Advance Auto Pi
4	2010	1	AAPL	Apple Inc.
5	2010	1	ABC	AmerisourceBen
6	2010	1	ABT	Abbott Laborato
7	2010	1	ACN	Accenture plc
8	2010	1	ADBE	Adobe Systems
9	2010	1	ADI	Analog Devices;
10	2010	1	ADM	Archer-Daniels-M
11	2010	1	ADP	Automatic Data
12	2010	1	ADS	Alliance Data Sy
13	2010	1	ADSK	Autodesk Inc
14	2010	1	AEE	Ameren Corp
15	2010	1	AEP	American Electri

All the data are also present in the excel given below



query-hive-95604.cs

v

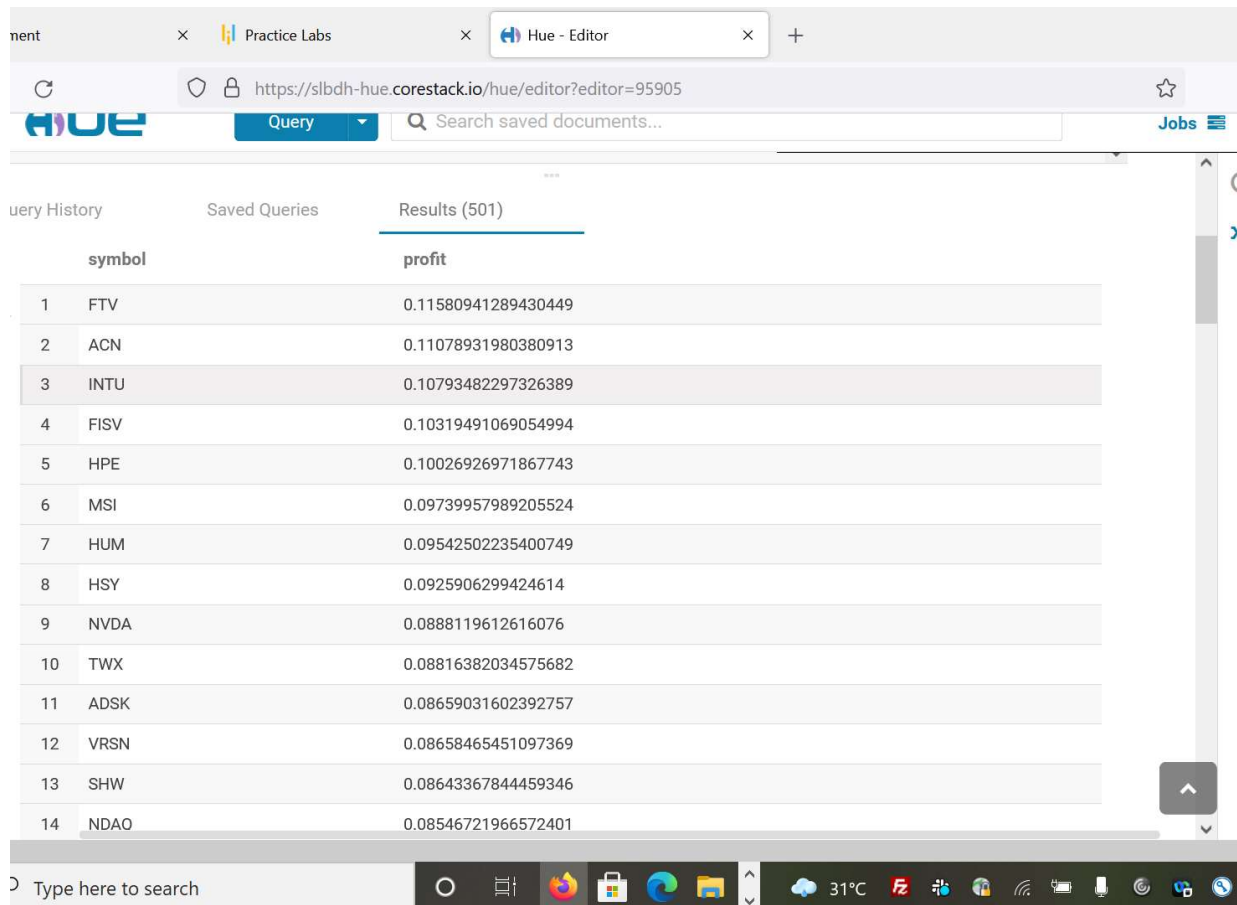
3) Find the top five companies that are good for investment

Finding the profit over the entire year , by using the below formula

```
SELECT symbol,(((sum(close)-sum(open))/sum(open))*100) AS profit FROM stock_comp_pric_fhp
```

```
GROUP BY symbol
```

```
SORT BY profit DESC;
```



The screenshot shows the Hue web interface with a query result table. The table has two columns: 'symbol' and 'profit'. The results are sorted by profit in descending order. The top 14 results are as follows:

	symbol	profit
1	FTV	0.11580941289430449
2	ACN	0.11078931980380913
3	INTU	0.10793482297326389
4	FISV	0.10319491069054994
5	HPE	0.10026926971867743
6	MSI	0.09739957989205524
7	HUM	0.09542502235400749
8	HSY	0.0925906299424614
9	NVDA	0.0888119612616076
10	TWX	0.08816382034575682
11	ADSK	0.08659031602392757
12	VRSN	0.08658465451097369
13	SHW	0.08643367844459346
14	NDAO	0.08546721966572401

The above are the top companies which are profitable as there closing prices are higher than opening prices.

4) Show the best-growing industry by each state, having at least two or more industries mapped.

The best industry would be with highest profit in a state and sector. So, Below queries will extract the same

```
SELECT symbol,sector,state,(((sum(close)-sum(open))/sum(open))*100) AS profit FROM stock_comp_pric_fhp
```

```
GROUP BY symbol,sector,state
```

```
SORT BY state,sector,profit;
```

	symbol	sector	state	profit
1	RF	Financials	Alabama	0.021251138450828797
2	VMC	Materials	Alabama	0.035764936918538784
3	RSG	Industrials	Arizona	0.04711888284216847
4	FSLR	Information Technology	Arizona	-0.1727484930194139
5	MCHP	Information Technology	Arizona	0.020459588211327897
6	FCX	Materials	Arizona	-0.13557641730424852
7	PNW	Utilities	Arizona	0.04676189934841296
8	WMT	Consumer Staples	Arkansas	0.04411128980817872
9	TSN	Consumer Staples	Arkansas	0.058834862417319764
10	MUR	Energy	Arkansas	0.003958449597527234
11	JBHT	Industrials	Arkansas	0.05233571548810345
12	SIG	Consumer Discretionary	Bermuda	0.028990006000573647
13	XL	Financials	Bermuda	0.04661136608618873
14	MAT	Consumer Discretionary	California	-0.007739972102646556

The excel below contains all the data as shown in excel



query-hive-95911.cs

v

5) For each sector find the following.

- Worst year
- b. Best year
- c. Stable year

For best , worst year, stable year , using the below queries.

```
SELECT sector, trading_year, (((sum(close)-sum(open))/sum(open))*100) AS profit FROM
stock_comp_pric_fhp
```

```
GROUP BY sector, trading_year
```

```
ORDER BY sector, trading_year;
```

The screenshot shows the Hue web interface with a query result table. The table has 14 rows and 3 columns: sector, trading_year, and profit. The data is as follows:

	sector	trading_year	profit
1	Consumer Discretionary	2010	0.08705654866842848
2	Consumer Discretionary	2011	0.025478485359695536
3	Consumer Discretionary	2012	0.06394110074203
4	Consumer Discretionary	2013	0.070617631941358
5	Consumer Discretionary	2014	-0.018419559246670405
6	Consumer Discretionary	2015	-0.035730357612829576
7	Consumer Discretionary	2016	0.033584358194483833
8	Consumer Staples	2010	0.06630425658468718
9	Consumer Staples	2011	0.05739110204502563
10	Consumer Staples	2012	0.040480825224646605
11	Consumer Staples	2013	0.0693340902303609
12	Consumer Staples	2014	0.046190836321289404
13	Consumer Staples	2015	0.030291211547882155
14	Consumer Staples	2016	0.041495091932720725

The below extract contains all the data from the query



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v