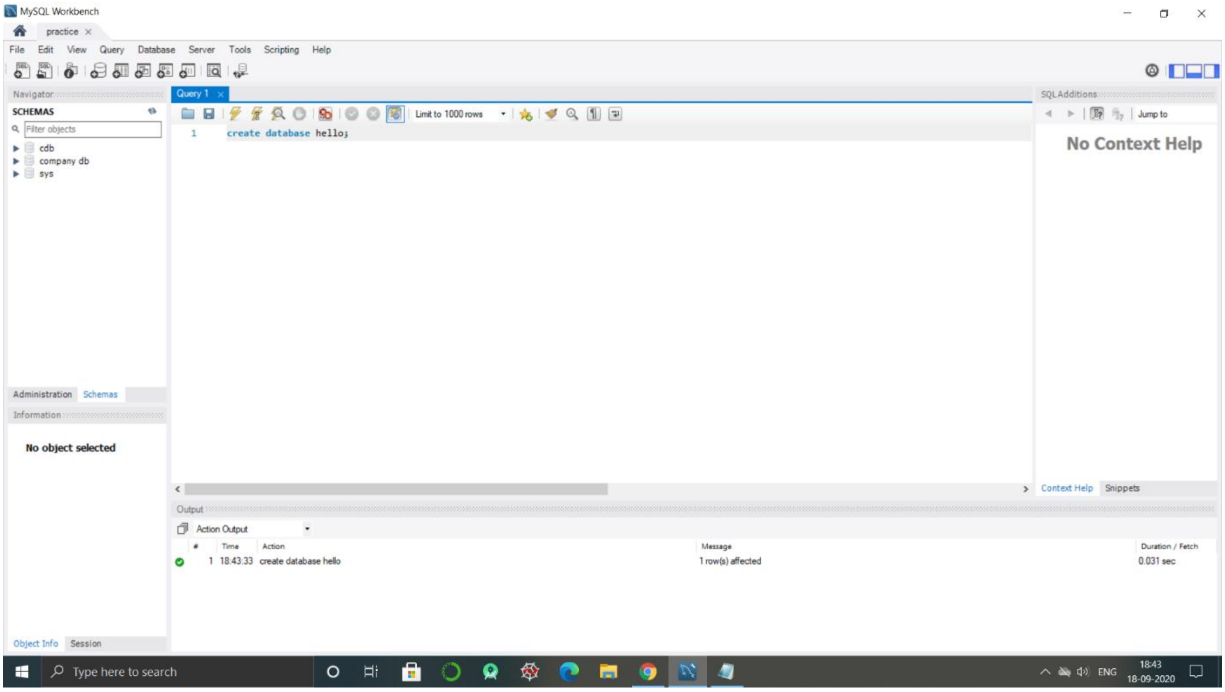
DBMS Assignment – 3

1. **Show how to Create and Drop Database.**

   Query : create database hello;

   Output :



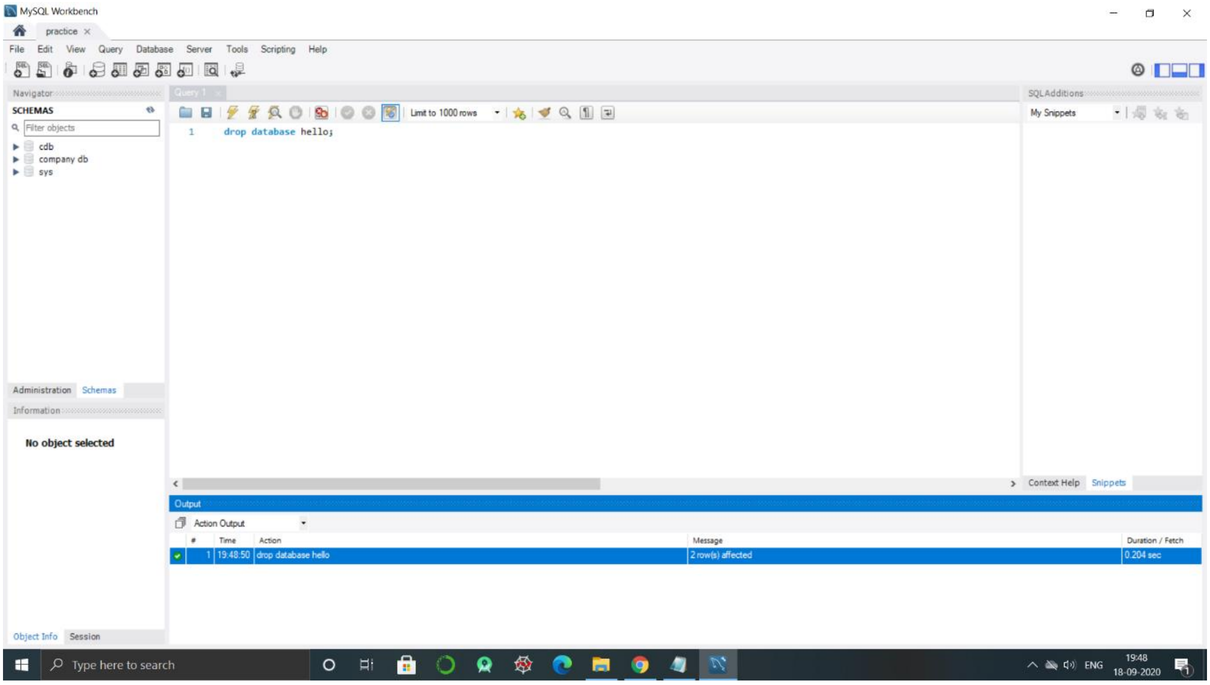
```
create database hello;
```

```
#   Time      Action                 Message            Duration / Fetch
1   18:43:33  create database hello  1 row(s) affected  0.031 sec
```

Drop Database :-

Query : drop database hello;

Output :



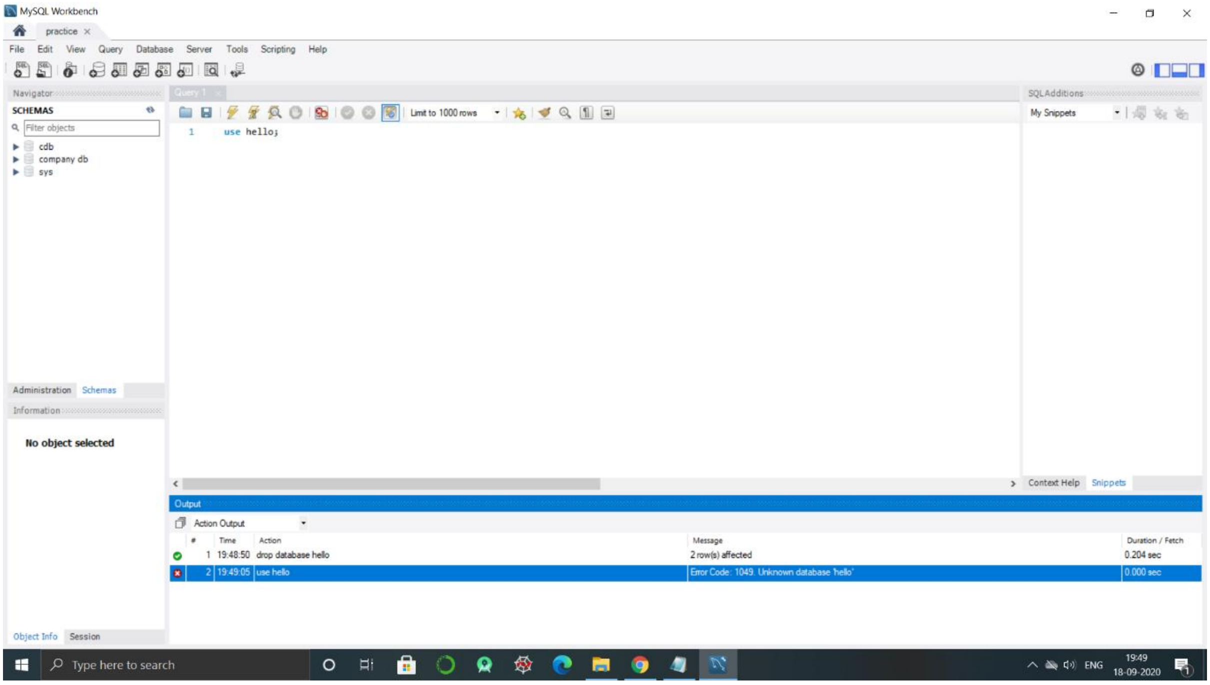
```
drop database hello;
```

```
#   Time      Action               Message            Duration / Fetch
1   19:48:50  drop database hello  2 row(s) affected  0.204 sec
```

Try to use a database after it is deleted :

Query : use hello;

Output :



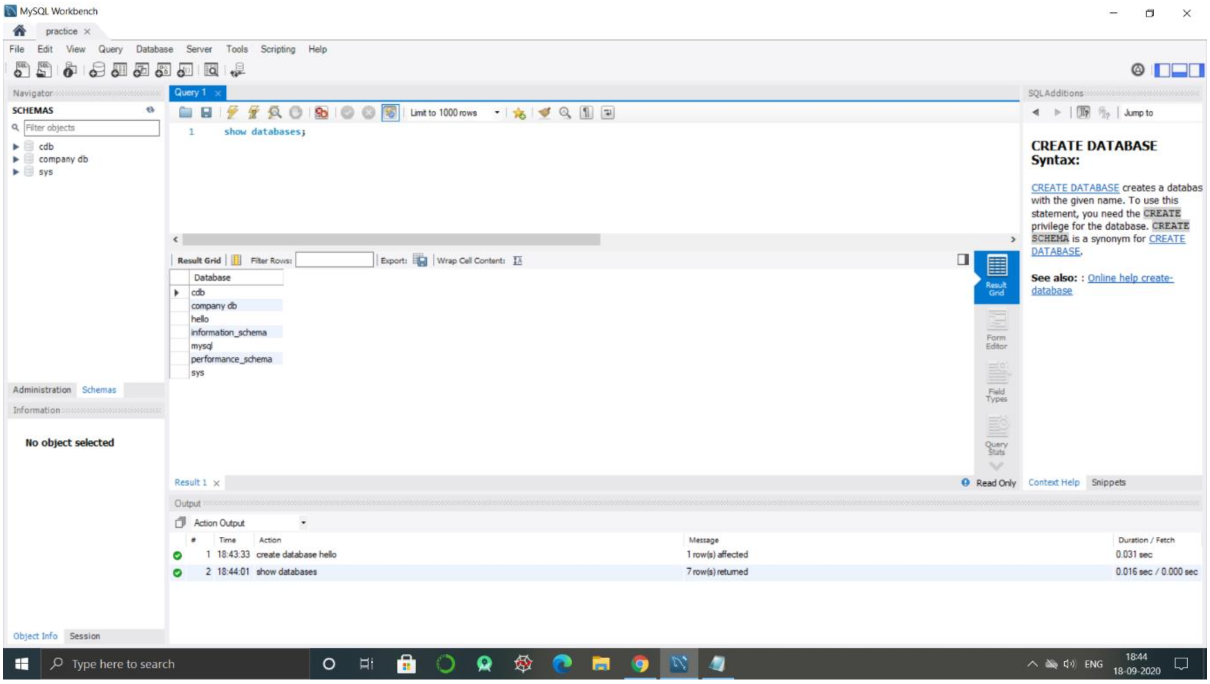
```
use hello;
```

```
#   Time      Action               Message                                   Duration / Fetch
1   19:48:50  drop database hello  2 row(s) affected                         0.204 sec
2   19:49:05  use hello            Error Code: 1049. Unknown database 'hello'  0.000 sec
```

2. **Show all the Databases in the system.**

Query : show databases;

Output :



```
show databases;
```

```
Database
cdb
company db
hello
information_schema
mysql
performance_schema
sys
```

CREATE DATABASE Syntax:

CREATE DATABASE creates a databas with the given name. To use this statement, you need the CREATE privilege for the database. CREATE SCHEMA is a synonym for CREATE DATABASE.

See also: : Online help create-database

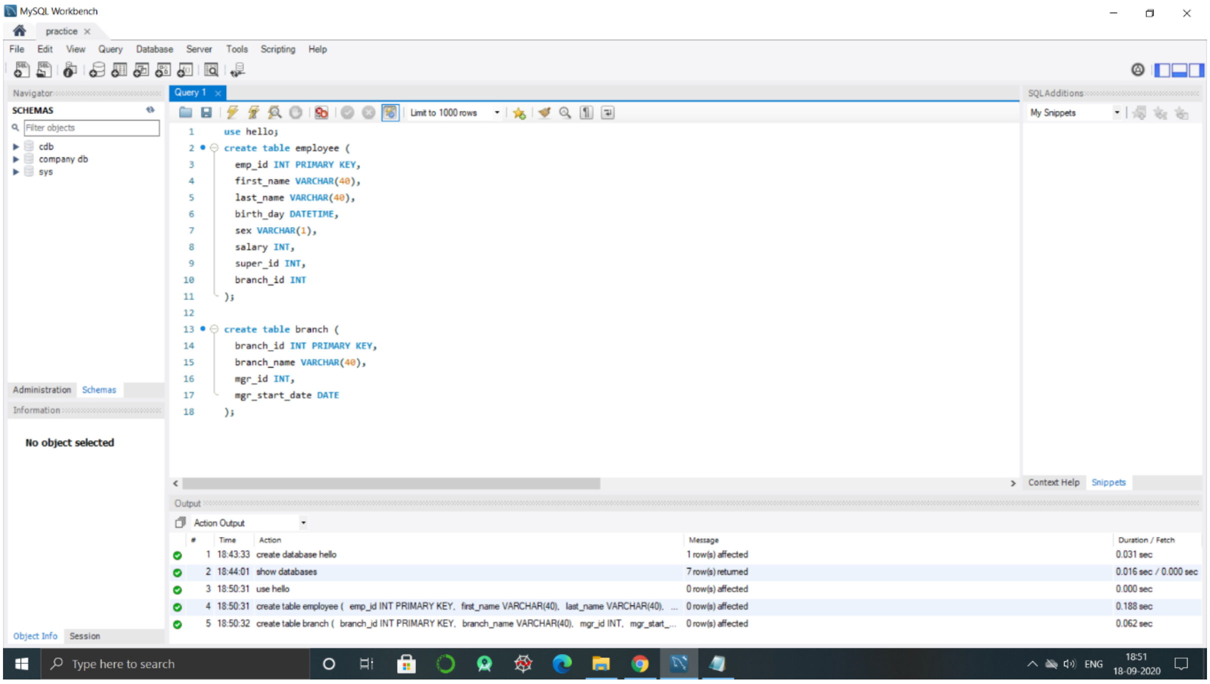
```
#   Time      Action                 Message            Duration / Fetch
1   18:43:33  create database hello  1 row(s) affected  0.031 sec
2   18:44:01  show databases         7 row(s) returned  0.016 sec / 0.000 sec
```

3. Create Table for your Database.

Query :

```
 use hello;

create table employee (

  emp_id INT PRIMARY KEY,

  first_name VARCHAR(40),

  last_name VARCHAR(40),

  birth_day DATETIME,

  sex VARCHAR(1),

  salary INT,

  super_id INT,

  branch_id INT

);


create table branch (

  branch_id INT PRIMARY KEY,

  branch_name VARCHAR(40),

  mgr_id INT,

  mgr_start_date DATE

);
```

Output :



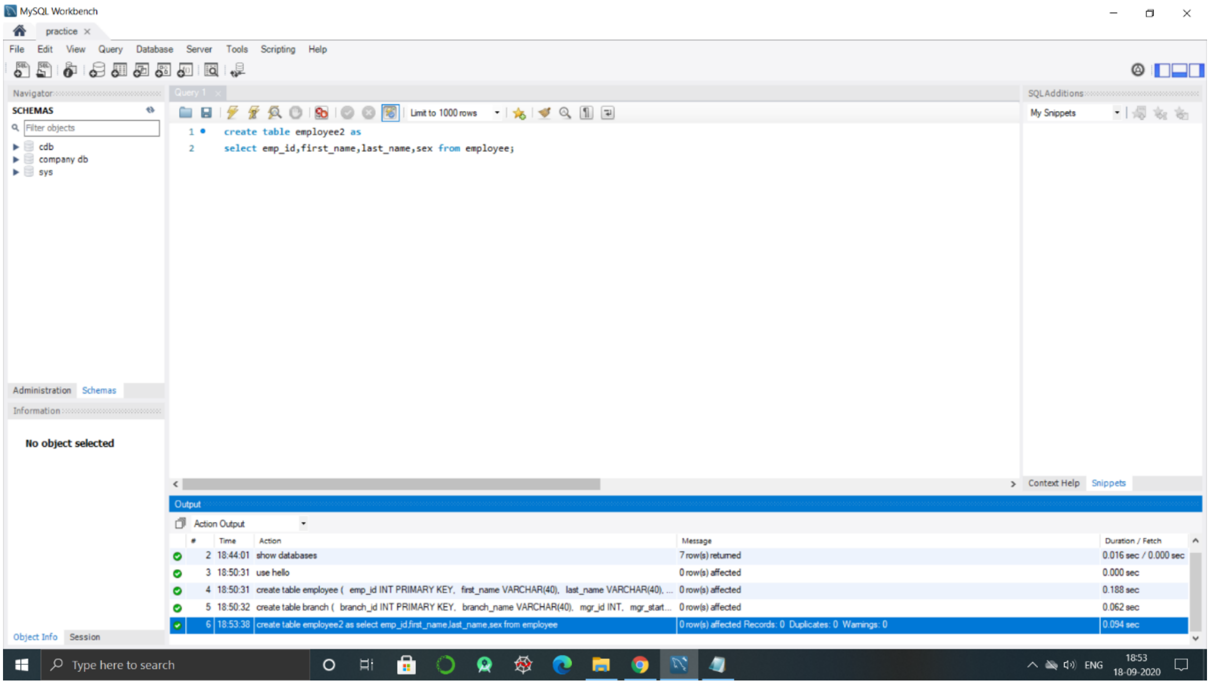
```
use hello;
create table employee (
    emp_id INT PRIMARY KEY,
    first_name VARCHAR(40),
    last_name VARCHAR(40),
    birth_day DATETIME,
    sex VARCHAR(1),
    salary INT,
    super_id INT,
    branch_id INT
);

create table branch (
    branch_id INT PRIMARY KEY,
    branch_name VARCHAR(40),
    mgr_id INT,
    mgr_start_date DATE
);
```

#	Time	Action	Message	Duration / Fetch
1	18:43:33	create database hello	1 row(s) affected	0.031 sec
2	18:44:01	show databases	7 row(s) returned	0.016 sec / 0.000 sec
3	18:50:31	use hello	0 row(s) affected	0.000 sec
4	18:50:31	create table employee (emp_id INT PRIMARY KEY, first_name VARCHAR(40), last_name VARCHAR(40), ...	0 row(s) affected	0.188 sec
5	18:50:32	create table branch (branch_id INT PRIMARY KEY, branch_name VARCHAR(40), mgr_id INT, mgr_start_...	0 row(s) affected	0.062 sec

4. Show how select can be used for Creating table

Query : create table employee2 as select emp_id,first_name,last_name,sex from employee;

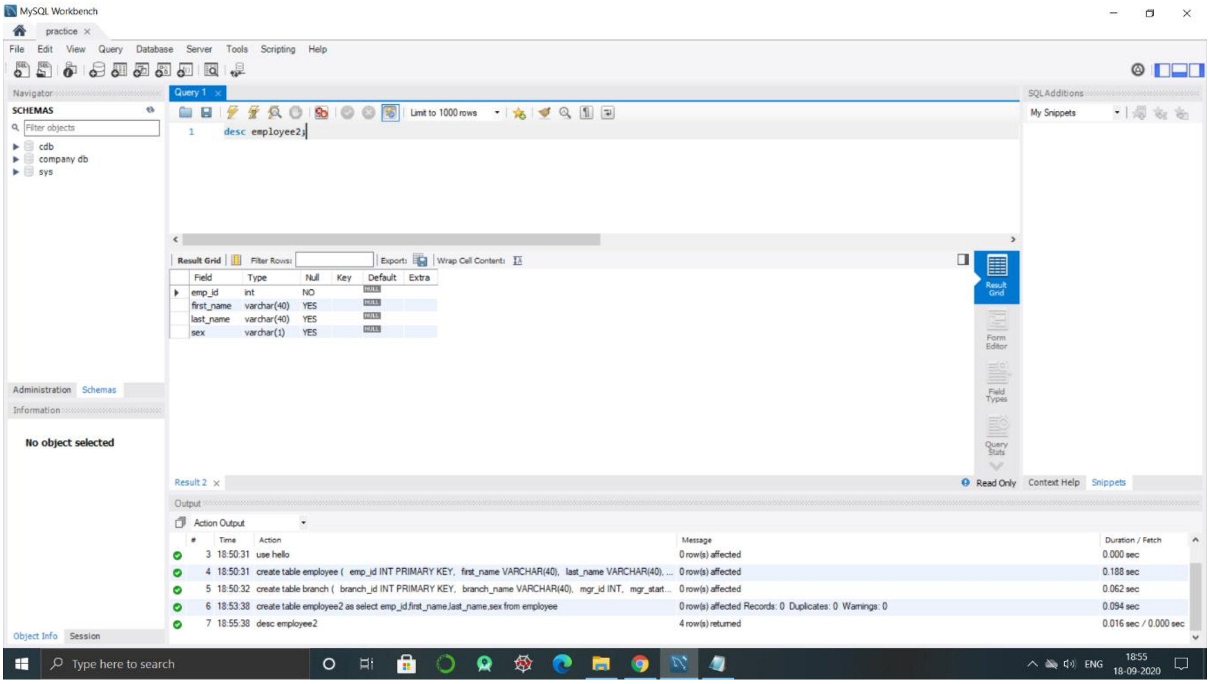
Output :



```
create table employee2 as
select emp_id,first_name,last_name,sex from employee;
```

```
#  Time      Action                                                                                     Message                                                    Duration / Fetch
2  18:44:01  show databases                                                                             7 row(s) returned                                          0.016 sec / 0.000 sec
3  18:50:31  use hello                                                                                  0 row(s) affected                                          0.000 sec
4  18:50:31  create table employee (  emp_id INT PRIMARY KEY,  first_name VARCHAR(40),  last_name VARCHAR(40), ...  0 row(s) affected                      0.188 sec
5  18:50:32  create table branch (  branch_id INT PRIMARY KEY,  branch_name VARCHAR(40),  mgr_id INT,  mgr_start...  0 row(s) affected                   0.062 sec
6  18:53:38  create table employee2 as select emp_id,first_name,last_name,sex from employee             0 row(s) affected Records: 0  Duplicates: 0  Warnings: 0   0.094 sec
```

Verification using describe query:



```
desc employee2;
```

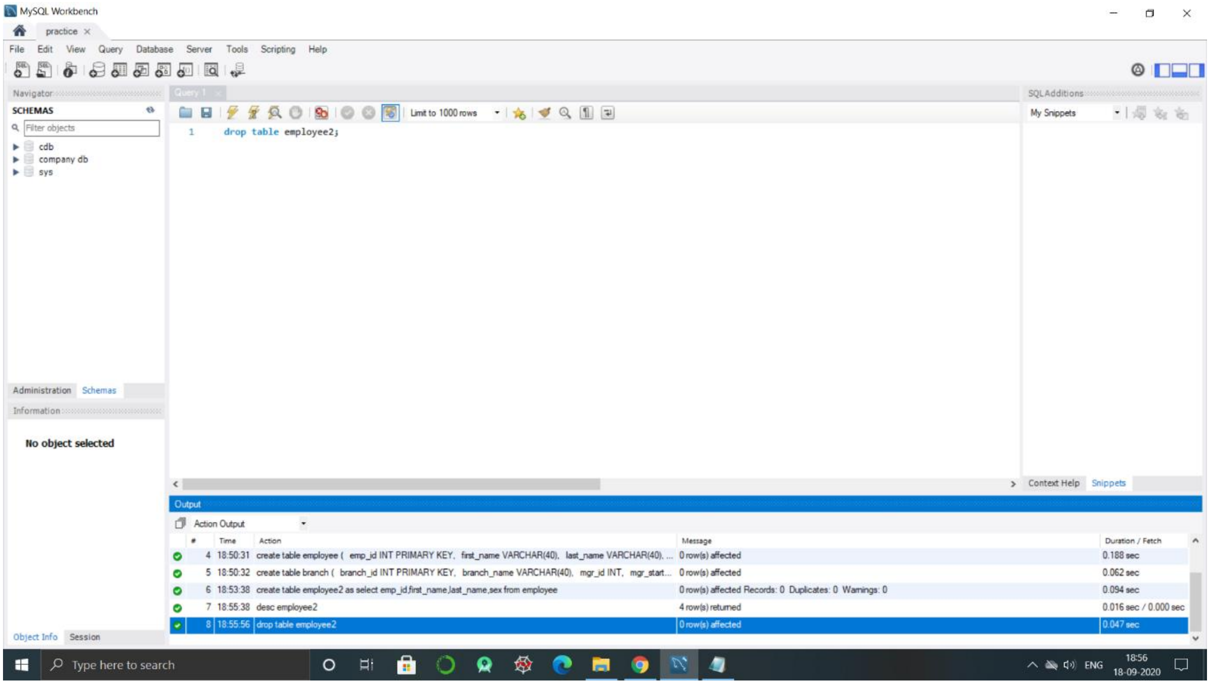
Field	Type	Null	Key	Default	Extra
emp_id	int	NO		NULL	
first_name	varchar(40)	YES		NULL	
last_name	varchar(40)	YES		NULL	
sex	varchar(1)	YES		NULL	

```
#  Time      Action                                                                                     Message                                                    Duration / Fetch
3  18:50:31  use hello                                                                                  0 row(s) affected                                          0.000 sec
4  18:50:31  create table employee (  emp_id INT PRIMARY KEY,  first_name VARCHAR(40),  last_name VARCHAR(40), ...  0 row(s) affected                      0.188 sec
5  18:50:32  create table branch (  branch_id INT PRIMARY KEY,  branch_name VARCHAR(40),  mgr_id INT,  mgr_start...  0 row(s) affected                   0.062 sec
6  18:53:38  create table employee2 as select emp_id,first_name,last_name,sex from employee             0 row(s) affected Records: 0  Duplicates: 0  Warnings: 0   0.094 sec
7  18:55:38  desc employee2                                                                             4 row(s) returned                                          0.016 sec / 0.000 sec
```

5. Drop table.

Query : drop table employee2;

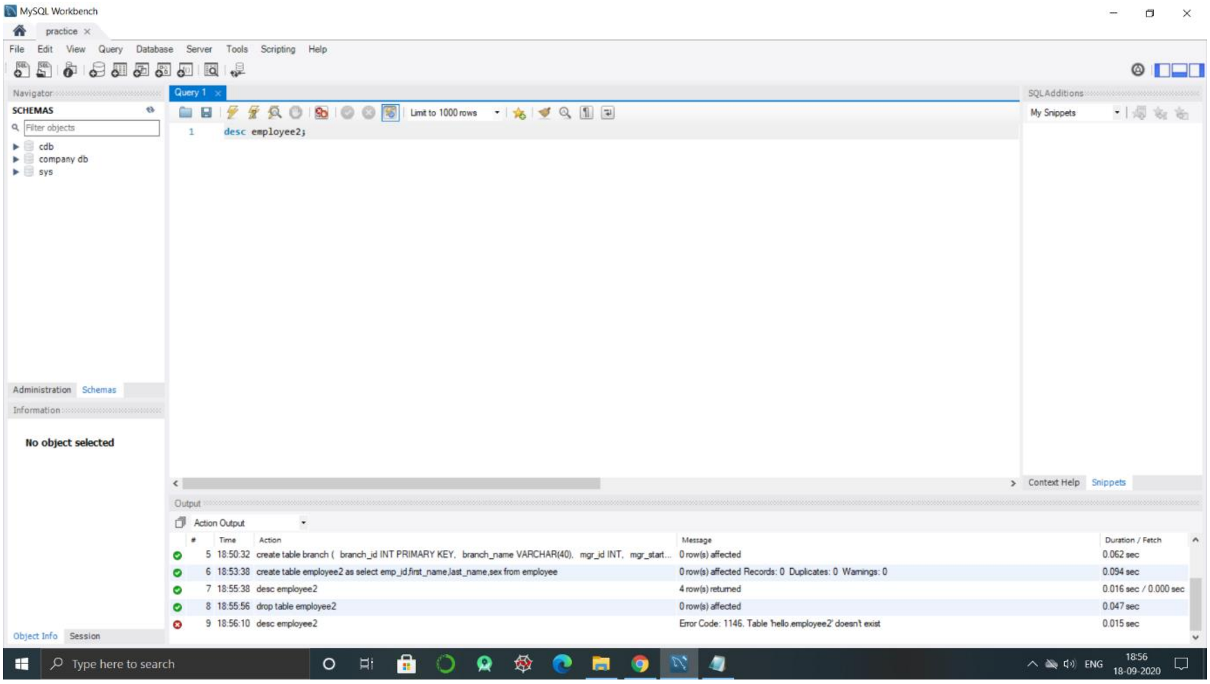
Output :



```
1    drop table employee2;
```

	#	Time	Action	Message	Duration / Fetch
✓	4	18:50:31	create table employee (emp_id INT PRIMARY KEY, first_name VARCHAR(40), last_name VARCHAR(40), ...	0 row(s) affected	0.188 sec
✓	5	18:50:32	create table branch (branch_id INT PRIMARY KEY, branch_name VARCHAR(40), mgr_id INT, mgr_start...	0 row(s) affected	0.062 sec
✓	6	18:53:38	create table employee2 as select emp_id,first_name,last_name,sex from employee	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.094 sec
✓	7	18:55:38	desc employee2	4 row(s) returned	0.016 sec / 0.000 sec
✓	8	18:55:56	drop table employee2	0 row(s) affected	0.047 sec

Verification whether the table is dropped or not by accessing the table using describe query :



```
1    desc employee2;
```

	#	Time	Action	Message	Duration / Fetch
✓	5	18:50:32	create table branch (branch_id INT PRIMARY KEY, branch_name VARCHAR(40), mgr_id INT, mgr_start...	0 row(s) affected	0.062 sec
✓	6	18:53:38	create table employee2 as select emp_id,first_name,last_name,sex from employee	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.094 sec
✓	7	18:55:38	desc employee2	4 row(s) returned	0.016 sec / 0.000 sec
✓	8	18:55:56	drop table employee2	0 row(s) affected	0.047 sec
✗	9	18:56:10	desc employee2	Error Code: 1146. Table 'hello.employee2' doesn't exist	0.015 sec

6. Show how to check the schema of the tables.

6.a. 1. Hover over the table name in the left side schemas panel of Workbench

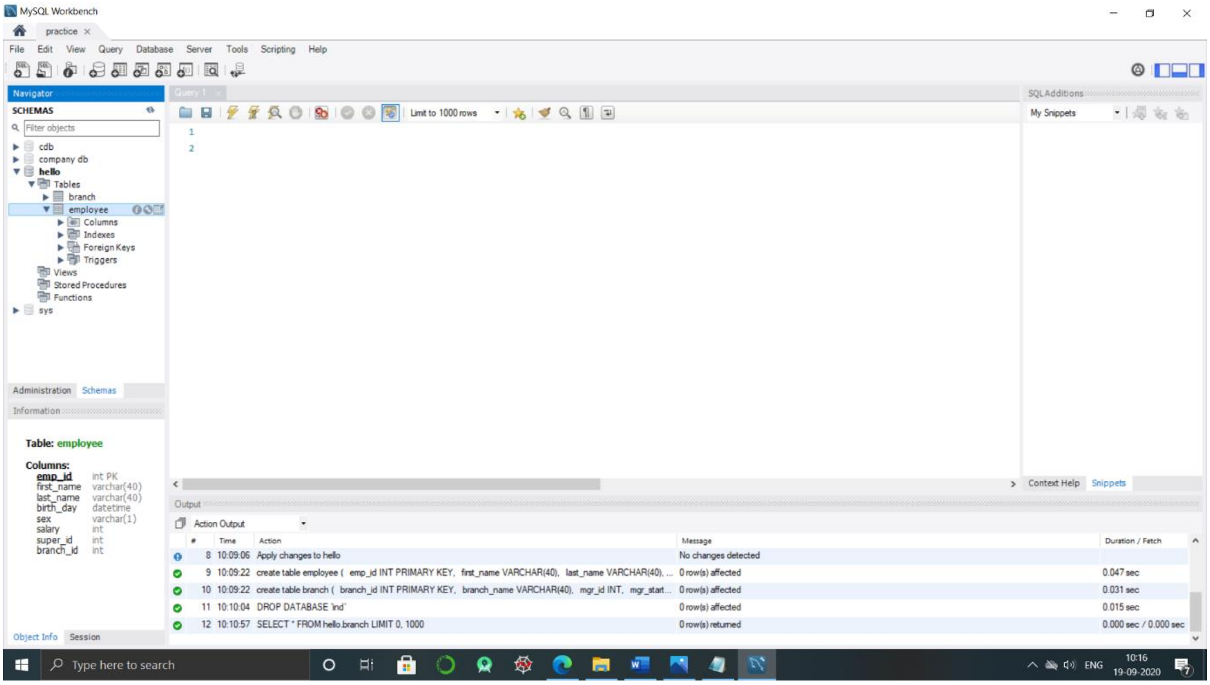


Table: employee

Columns:

emp_id	int PK
first_name	varchar(40)
last_name	varchar(40)
birth_day	datetime
sex	varchar(1)
salary	int
super_id	int
branch_id	int

#	Time	Action	Message	Duration / Fetch
8	10:09:06	Apply changes to hello	No changes detected	
9	10:09:22	create table employee (emp_id INT PRIMARY KEY, first_name VARCHAR(40), last_name VARCHAR(40), ...	0 row(s) affected	0.047 sec
10	10:09:22	create table branch (branch_id INT PRIMARY KEY, branch_name VARCHAR(40), mgr_id INT, mgr_start...	0 row(s) affected	0.031 sec
11	10:10:04	DROP DATABASE 'ind'	0 row(s) affected	0.015 sec
12	10:10:57	SELECT * FROM hello.branch LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec

2. Right click on the table required and click on Table Inspector.

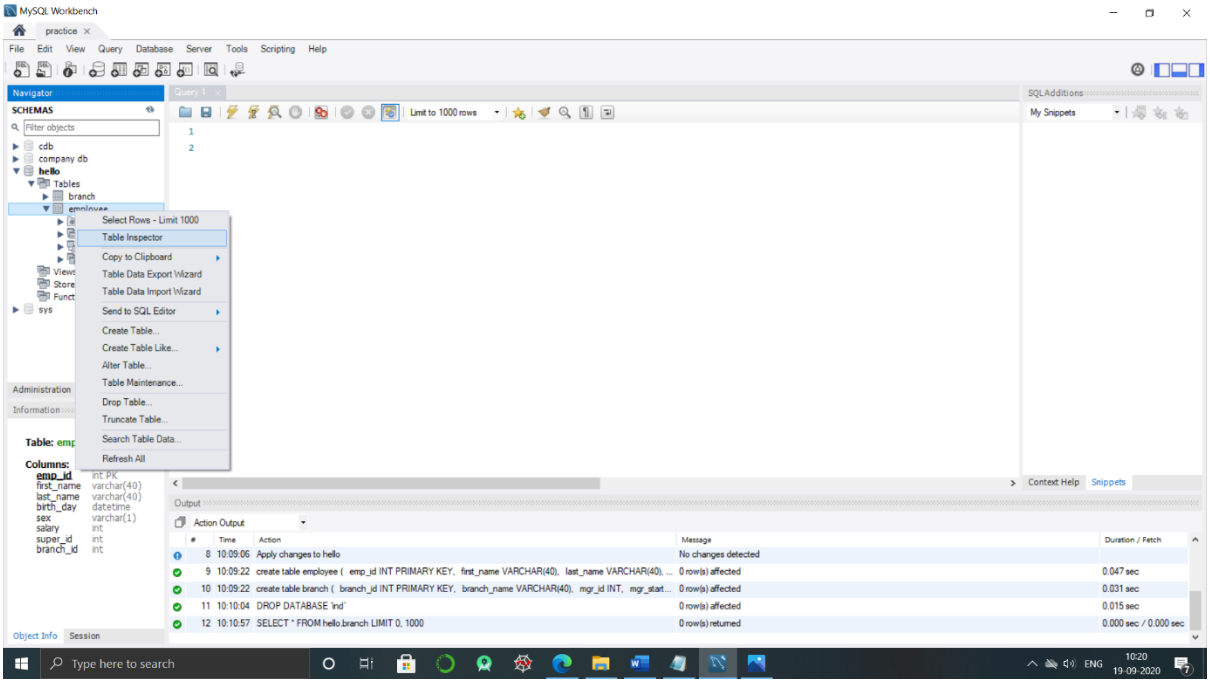


Table: emp

Columns:

emp_id	int PK
first_name	varchar(40)
last_name	varchar(40)
birth_day	datetime
sex	varchar(1)
salary	int
super_id	int
branch_id	int

#	Time	Action	Message	Duration / Fetch
8	10:09:06	Apply changes to hello	No changes detected	
9	10:09:22	create table employee (emp_id INT PRIMARY KEY, first_name VARCHAR(40), last_name VARCHAR(40), ...	0 row(s) affected	0.047 sec
10	10:09:22	create table branch (branch_id INT PRIMARY KEY, branch_name VARCHAR(40), mgr_id INT, mgr_start...	0 row(s) affected	0.031 sec
11	10:10:04	DROP DATABASE 'ind'	0 row(s) affected	0.015 sec
12	10:10:57	SELECT * FROM hello.branch LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec

3. A new tab opens by the name hello.employee

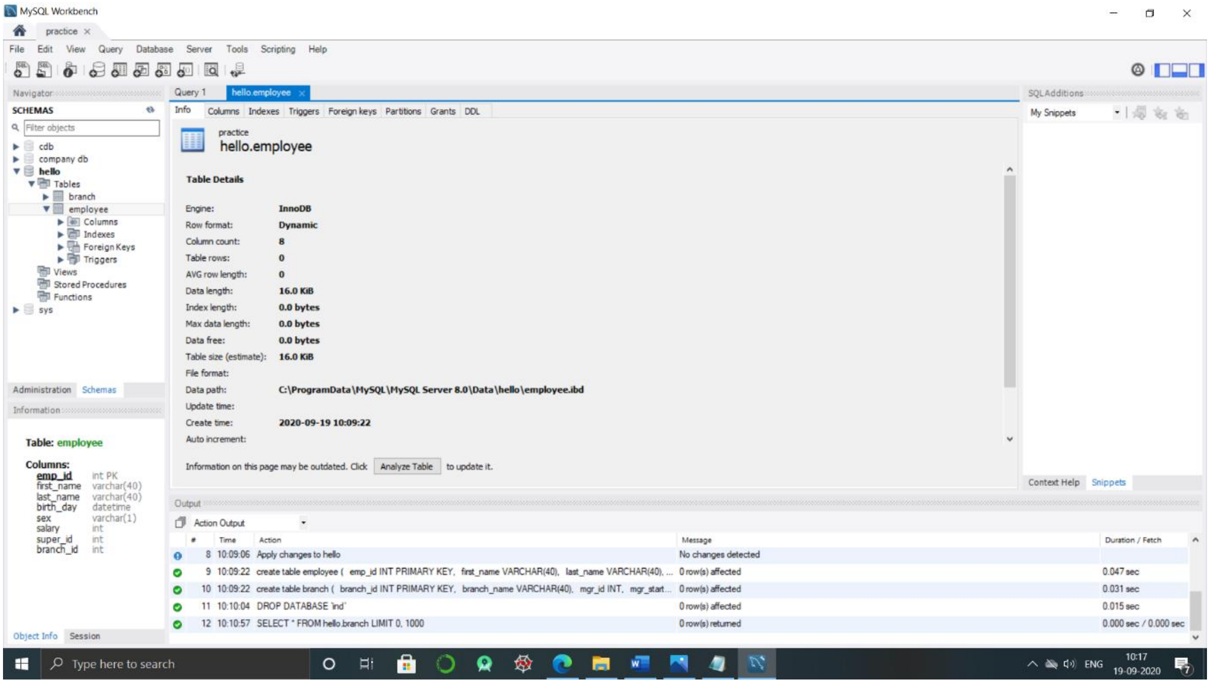


Table: employee

Columns:

emp_id	int PK
first_name	varchar(40)
last_name	varchar(40)
birth_day	datetime
sex	varchar(1)
salary	int
super_id	int
branch_id	int

practice
hello.employee

Table Details

Engine:	**InnoDB**
Row format:	**Dynamic**
Column count:	**8**
Table rows:	**0**
AVG row length:	**0**
Data length:	**16.0 KiB**
Index length:	**0.0 bytes**
Max data length:	**0.0 bytes**
Data free:	**0.0 bytes**
Table size (estimate):	**16.0 KiB**
File format:	
Data path:	**C:\ProgramData\MySQL\MySQL Server 8.0\Data\hello\employee.ibd**
Update time:	
Create time:	**2020-09-19 10:09:22**
Auto increment:	

Information on this page may be outdated. Click Analyze Table to update it.

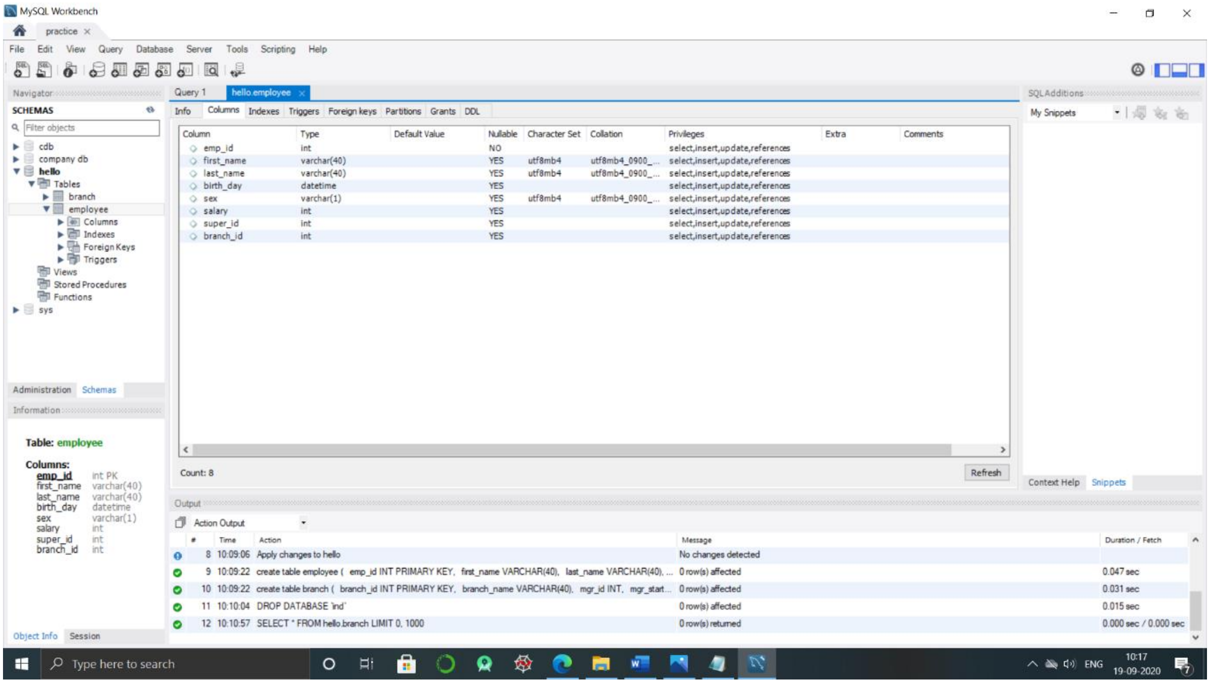
Output

Action Output

```
 #  Time      Action                                                                                   Message               Duration / Fetch
 8  10:09:06  Apply changes to hello                                                                   No changes detected
 9  10:09:22  create table employee (  emp_id INT PRIMARY KEY,  first_name VARCHAR(40),  last_name VARCHAR(40), ...  0 row(s) affected  0.047 sec
10  10:09:22  create table branch (  branch_id INT PRIMARY KEY,  branch_name VARCHAR(40),  mgr_id INT,  mgr_start...  0 row(s) affected  0.031 sec
11  10:10:04  DROP DATABASE 'ind'                                                                      0 row(s) affected     0.015 sec
12  10:10:57  SELECT * FROM hello.branch LIMIT 0, 1000                                                 0 row(s) returned     0.000 sec / 0.000 sec
```

4. Now you can click on whatever you want to get information about the table. Like columns,indexes etc.

Columns:



Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	Extra	Comments
emp_id	int		NO			select,insert,update,references		
first_name	varchar(40)		YES	utf8mb4	utf8mb4_0900_...	select,insert,update,references		
last_name	varchar(40)		YES	utf8mb4	utf8mb4_0900_...	select,insert,update,references		
birth_day	datetime		YES			select,insert,update,references		
sex	varchar(1)		YES	utf8mb4	utf8mb4_0900_...	select,insert,update,references		
salary	int		YES			select,insert,update,references		
super_id	int		YES			select,insert,update,references		
branch_id	int		YES			select,insert,update,references		

Count: 8

Table: employee

Columns:

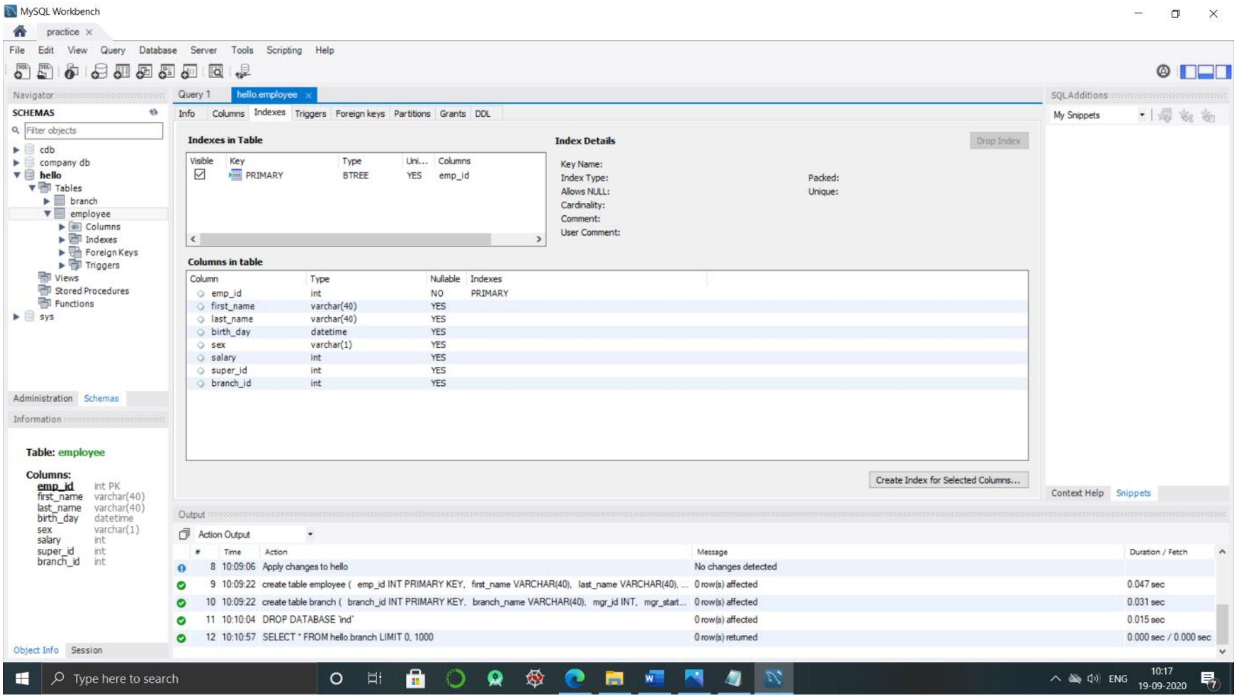
emp_id	int PK
first_name	varchar(40)
last_name	varchar(40)
birth_day	datetime
sex	varchar(1)
salary	int
super_id	int
branch_id	int

Output

Action Output

```
 #  Time      Action                                                                                   Message               Duration / Fetch
 8  10:09:06  Apply changes to hello                                                                   No changes detected
 9  10:09:22  create table employee (  emp_id INT PRIMARY KEY,  first_name VARCHAR(40),  last_name VARCHAR(40), ...  0 row(s) affected  0.047 sec
10  10:09:22  create table branch (  branch_id INT PRIMARY KEY,  branch_name VARCHAR(40),  mgr_id INT,  mgr_start...  0 row(s) affected  0.031 sec
11  10:10:04  DROP DATABASE 'ind'                                                                      0 row(s) affected     0.015 sec
12  10:10:57  SELECT * FROM hello.branch LIMIT 0, 1000                                                 0 row(s) returned     0.000 sec / 0.000 sec
```

Indexes:



Indexes in Table

Visible	Key	Type	Uni...	Columns
☑	PRIMARY	BTREE	YES	emp_id

Index Details

Key Name:
Index Type:
Allows NULL:
Cardinality:
Comment:
User Comment:
Packed:
Unique:

Columns in table

Column	Type	Nullable	Indexes
emp_id	int	NO	PRIMARY
first_name	varchar(40)	YES	
last_name	varchar(40)	YES	
birth_day	datetime	YES	
sex	varchar(1)	YES	
salary	int	YES	
super_id	int	YES	
branch_id	int	YES	

Table: employee

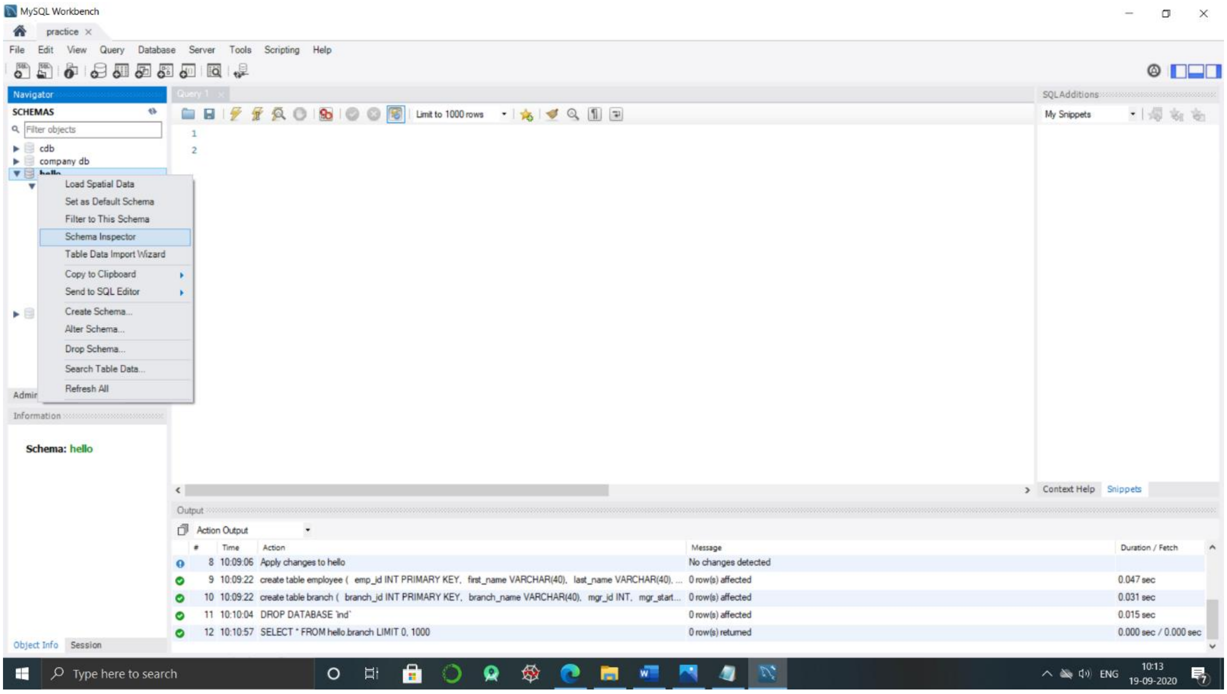
Columns:

emp_id	int PK
first_name	varchar(40)
last_name	varchar(40)
birth_day	datetime
sex	varchar(1)
salary	int
super_id	int
branch_id	int

```
#   Time      Action                                                                                        Message               Duration / Fetch
8   10:09:06  Apply changes to hello                                                                        No changes detected
9   10:09:22  create table employee (  emp_id INT PRIMARY KEY,  first_name VARCHAR(40),  last_name VARCHAR(40), ...  0 row(s) affected  0.047 sec
10  10:09:22  create table branch (  branch_id INT PRIMARY KEY,  branch_name VARCHAR(40),  mgr_id INT,  mgr_start...  0 row(s) affected  0.031 sec
11  10:10:04  DROP DATABASE 'ind'                                                                           0 row(s) affected     0.015 sec
12  10:10:57  SELECT * FROM hello.branch LIMIT 0, 1000                                                      0 row(s) returned     0.000 sec / 0.000 sec
```

You can also get the schema of the database using schema inspector like this :

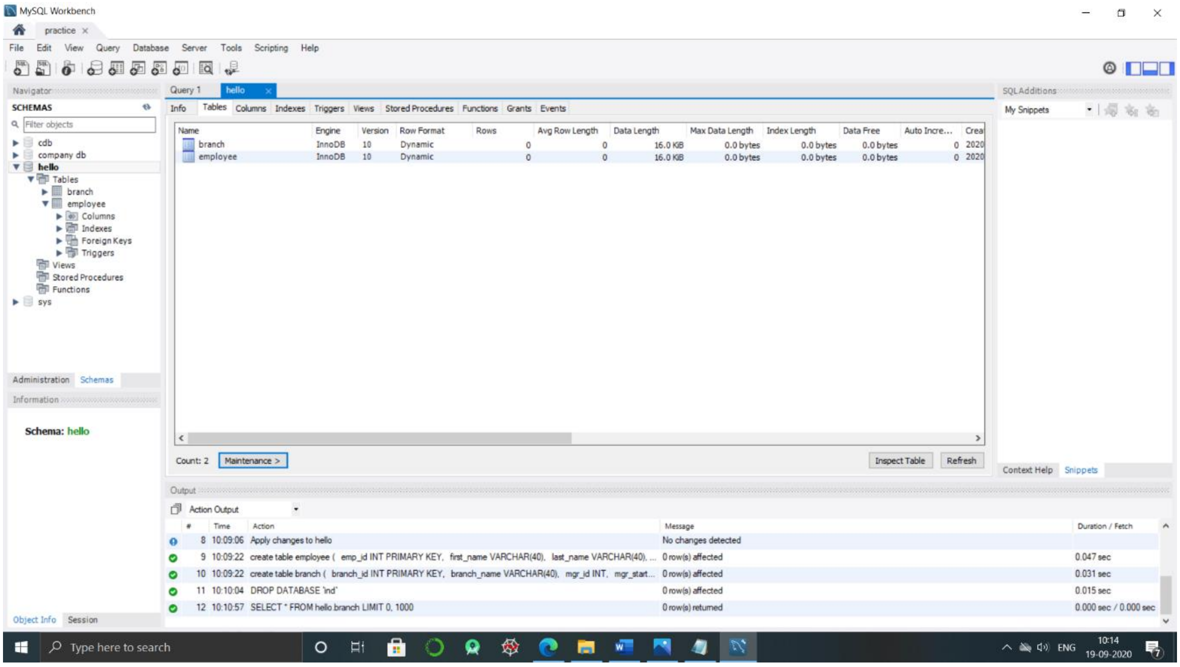
1.



Schema: hello

```
#   Time      Action                                                                                        Message               Duration / Fetch
8   10:09:06  Apply changes to hello                                                                        No changes detected
9   10:09:22  create table employee (  emp_id INT PRIMARY KEY,  first_name VARCHAR(40),  last_name VARCHAR(40), ...  0 row(s) affected  0.047 sec
10  10:09:22  create table branch (  branch_id INT PRIMARY KEY,  branch_name VARCHAR(40),  mgr_id INT,  mgr_start...  0 row(s) affected  0.031 sec
11  10:10:04  DROP DATABASE 'ind'                                                                           0 row(s) affected     0.015 sec
12  10:10:57  SELECT * FROM hello.branch LIMIT 0, 1000                                                      0 row(s) returned     0.000 sec / 0.000 sec
```

2.



Name	Engine	Version	Row Format	Rows	Avg Row Length	Data Length	Max Data Length	Index Length	Data Free	Auto Incre...	Crea
branch	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	0.0 bytes	0.0 bytes	0	2020
employee	InnoDB	10	Dynamic	0	0	16.0 KiB	0.0 bytes	0.0 bytes	0.0 bytes	0	2020

```
#   Time      Action                                                                                       Message               Duration / Fetch
8   10:09:06  Apply changes to hello                                                                       No changes detected
9   10:09:22  create table employee (  emp_id INT PRIMARY KEY,  first_name VARCHAR(40),  last_name VARCHAR(40), ...  0 row(s) affected  0.047 sec
10  10:09:22  create table branch (  branch_id INT PRIMARY KEY,  branch_name VARCHAR(40),  mgr_id INT,  mgr_start...  0 row(s) affected  0.031 sec
11  10:10:04  DROP DATABASE 'ind'                                                                          0 row(s) affected     0.015 sec
12  10:10:57  SELECT * FROM hello.branch LIMIT 0, 1000                                                     0 row(s) returned     0.000 sec / 0.000 sec
```

3.

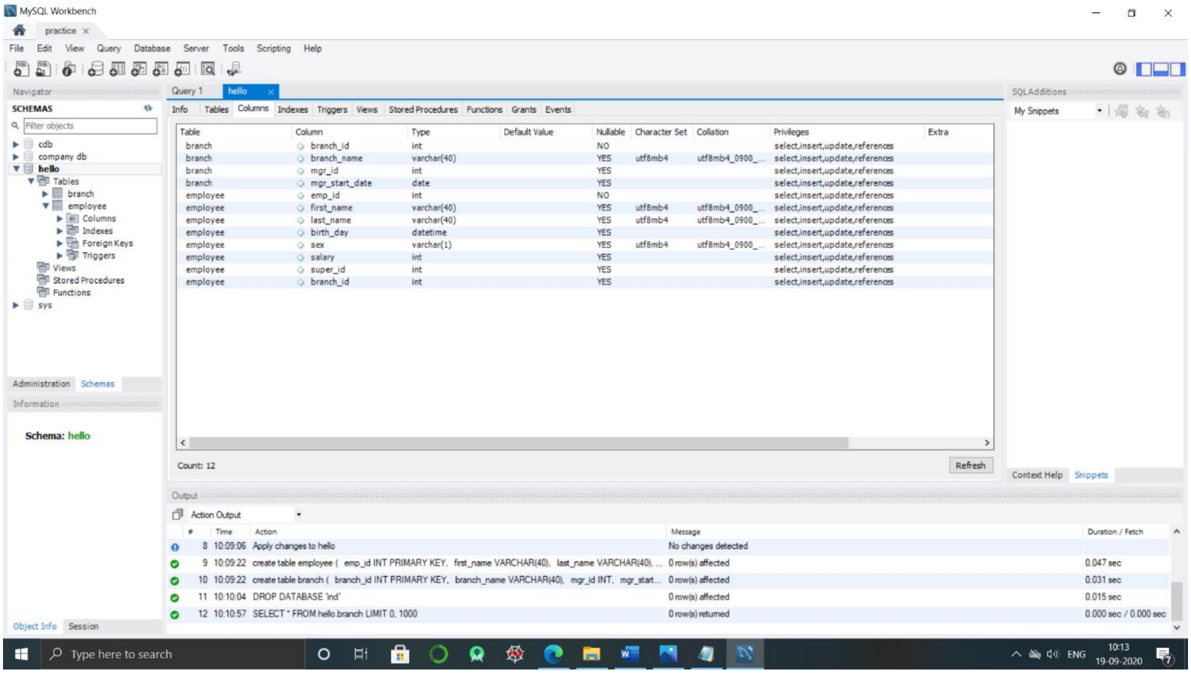


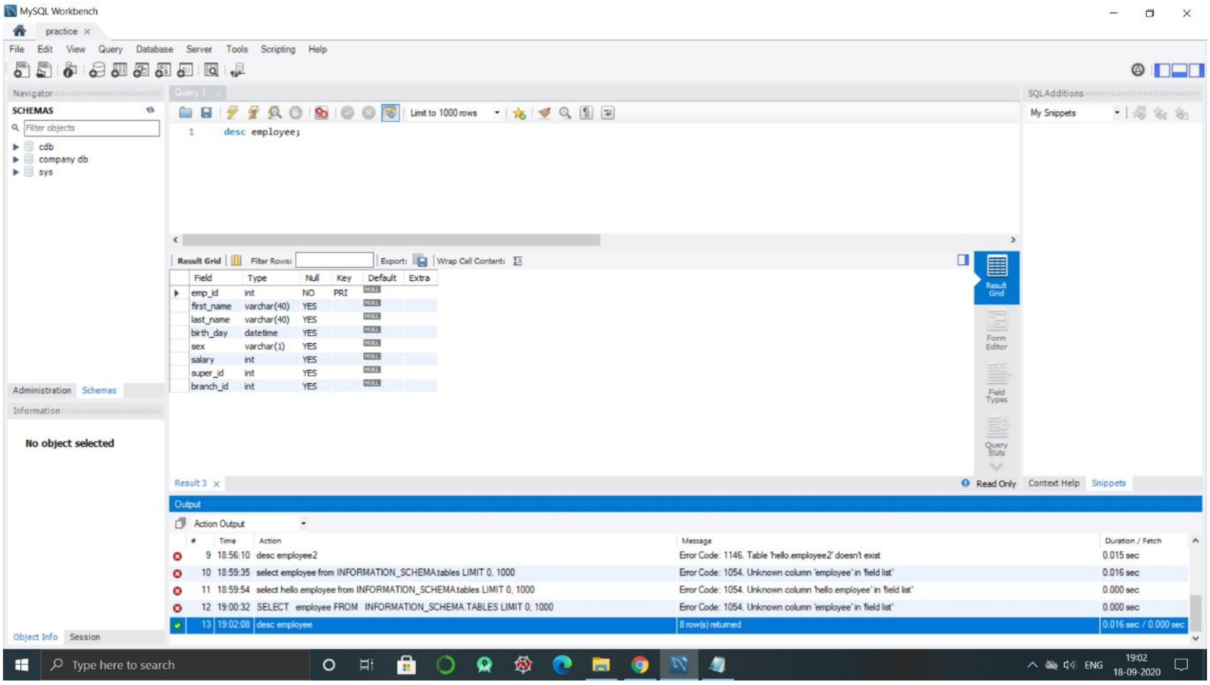
Table	Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	Extra
branch	branch_id	int		NO			select,insert,update,references	
branch	branch_name	varchar(40)		YES	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
branch	mgr_id	int		YES			select,insert,update,references	
branch	mgr_start_date	date		YES			select,insert,update,references	
employee	emp_id	int		NO			select,insert,update,references	
employee	first_name	varchar(40)		YES	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
employee	last_name	varchar(40)		YES	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
employee	birth_day	datetime		YES			select,insert,update,references	
employee	sex	varchar(1)		YES	utf8mb4	utf8mb4_0900_...	select,insert,update,references	
employee	salary	int		YES			select,insert,update,references	
employee	super_id	int		YES			select,insert,update,references	
employee	branch_id	int		YES			select,insert,update,references	

```
#   Time      Action                                                                                       Message               Duration / Fetch
8   10:09:06  Apply changes to hello                                                                       No changes detected
9   10:09:22  create table employee (  emp_id INT PRIMARY KEY,  first_name VARCHAR(40),  last_name VARCHAR(40), ...  0 row(s) affected  0.047 sec
10  10:09:22  create table branch (  branch_id INT PRIMARY KEY,  branch_name VARCHAR(40),  mgr_id INT,  mgr_start...  0 row(s) affected  0.031 sec
11  10:10:04  DROP DATABASE 'ind'                                                                          0 row(s) affected     0.015 sec
12  10:10:57  SELECT * FROM hello.branch LIMIT 0, 1000                                                     0 row(s) returned     0.000 sec / 0.000 sec
```

6.b. Using describe query :

Query : desc employee;

Output :



```
1    desc employee;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
emp_id	int	NO	PRI	NULL	
first_name	varchar(40)	YES		NULL	
last_name	varchar(40)	YES		NULL	
birth_day	datetime	YES		NULL	
sex	varchar(1)	YES		NULL	
salary	int	YES		NULL	
super_id	int	YES		NULL	
branch_id	int	YES		NULL	

Result 3

Output

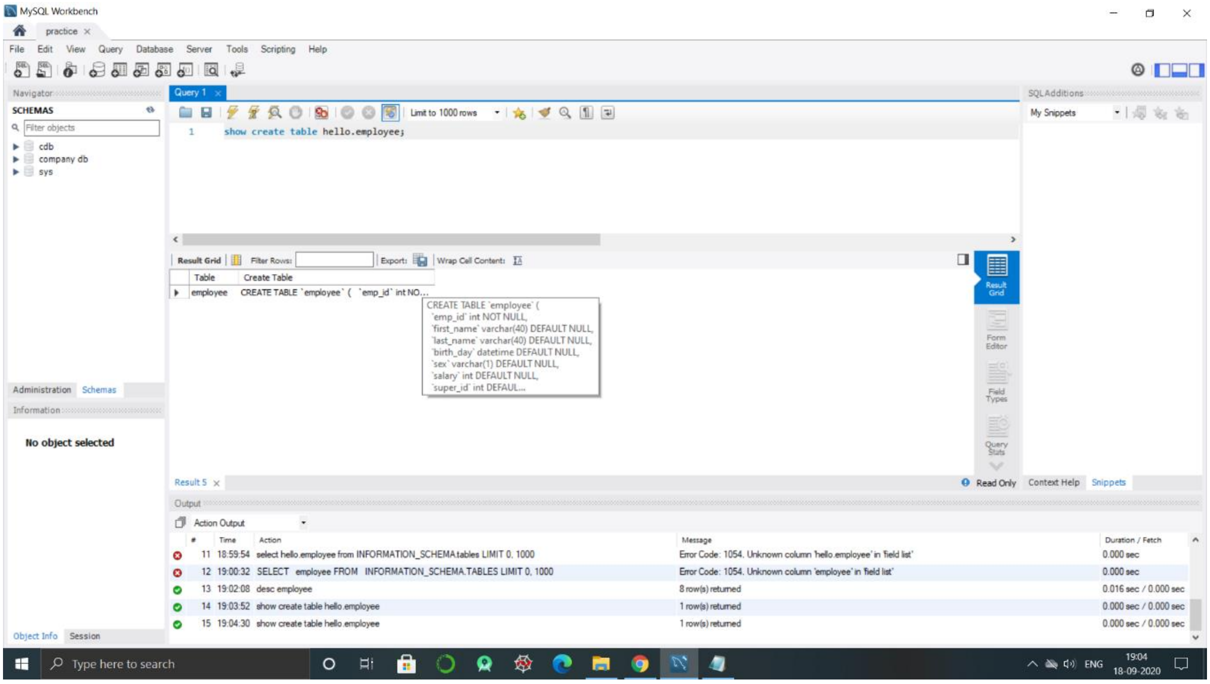
Action Output

	#	Time	Action	Message	Duration / Fetch
☒	9	18:56:10	desc employee2	Error Code: 1146. Table 'hello.employee2' doesn't exist	0.015 sec
☒	10	18:59:35	select employee from INFORMATION_SCHEMA.tables LIMIT 0, 1000	Error Code: 1054. Unknown column 'employee' in 'field list'	0.016 sec
☒	11	18:59:54	select hello.employee from INFORMATION_SCHEMA.tables LIMIT 0, 1000	Error Code: 1054. Unknown column 'hello.employee' in 'field list'	0.000 sec
☒	12	19:00:32	SELECT employee FROM INFORMATION_SCHEMA.TABLES LIMIT 0, 1000	Error Code: 1054. Unknown column 'employee' in 'field list'	0.000 sec
✓	13	19:02:08	desc employee	8 row(s) returned	0.016 sec / 0.000 sec

6.c. Using show query :

Query : show create table hello.employee;

Output :



```
1    show create table hello.employee;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Table	Create Table
employee	CREATE TABLE `employee` (`emp_id` int NO...

```
CREATE TABLE `employee` (
  `emp_id` int NOT NULL,
  `first_name` varchar(40) DEFAULT NULL,
  `last_name` varchar(40) DEFAULT NULL,
  `birth_day` datetime DEFAULT NULL,
  `sex` varchar(1) DEFAULT NULL,
  `salary` int DEFAULT NULL,
  `super_id` int DEFAUL...
```

Result 5

Output

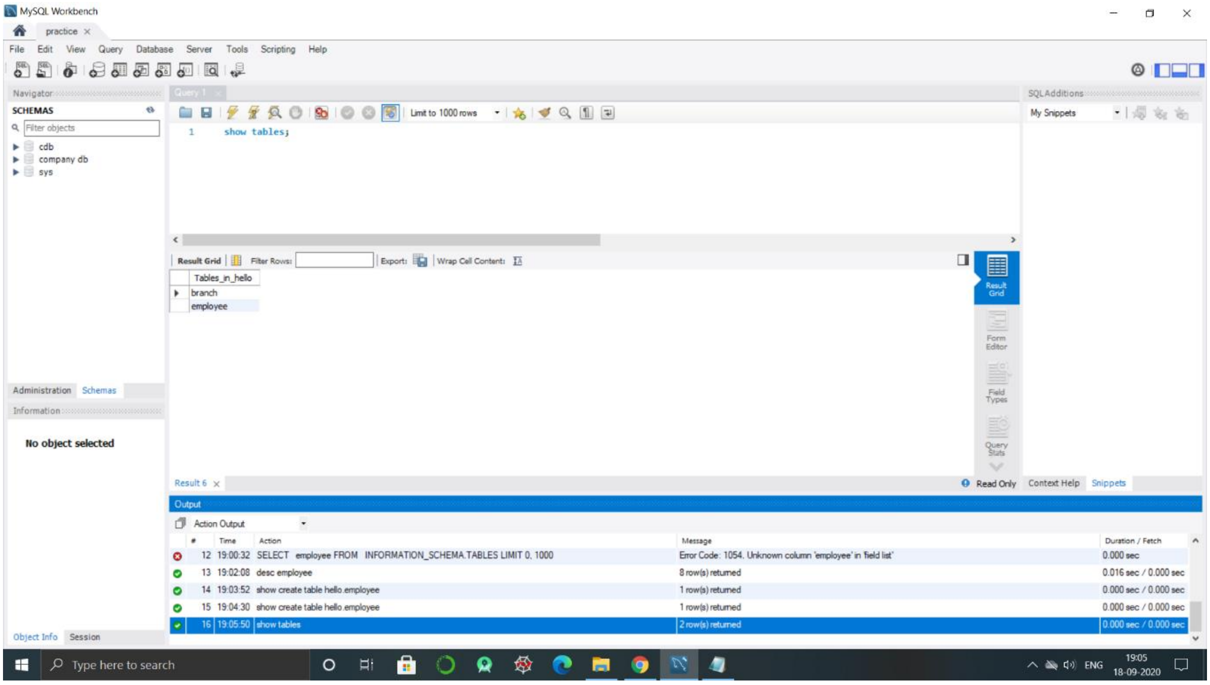
Action Output

	#	Time	Action	Message	Duration / Fetch
☒	11	18:59:54	select hello.employee from INFORMATION_SCHEMA.tables LIMIT 0, 1000	Error Code: 1054. Unknown column 'hello.employee' in 'field list'	0.000 sec
☒	12	19:00:32	SELECT employee FROM INFORMATION_SCHEMA.TABLES LIMIT 0, 1000	Error Code: 1054. Unknown column 'employee' in 'field list'	0.000 sec
✓	13	19:02:08	desc employee	8 row(s) returned	0.016 sec / 0.000 sec
✓	14	19:03:52	show create table hello.employee	1 row(s) returned	0.000 sec / 0.000 sec
✓	15	19:04:30	show create table hello.employee	1 row(s) returned	0.000 sec / 0.000 sec

7. Show all the tables from the database.

Query : show tables;

Output :



```
show tables;
```

Tables_in_hello
branch
employee

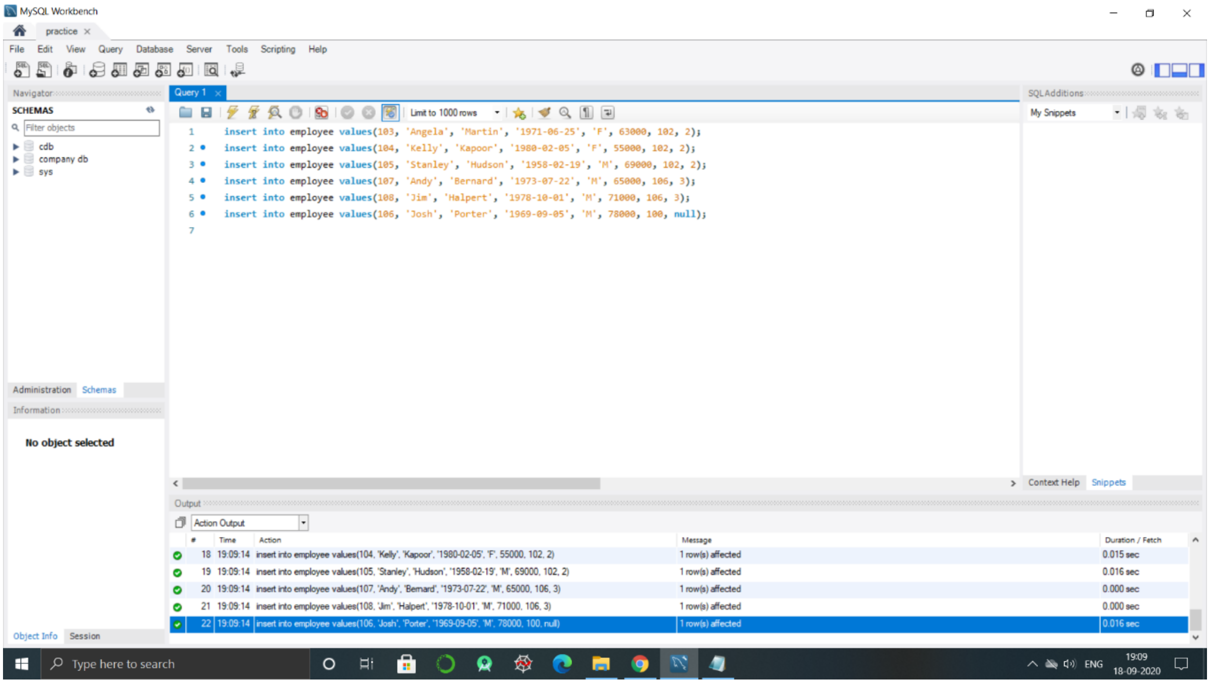
```
#   Time      Action                                                   Message                                                    Duration / Fetch
12  19:00:32  SELECT  employee FROM  INFORMATION_SCHEMA.TABLES LIMIT 0, 1000   Error Code: 1054. Unknown column 'employee' in 'field list'   0.000 sec
13  19:02:08  desc employee                                            8 row(s) returned                                          0.016 sec / 0.000 sec
14  19:03:52  show create table hello.employee                         1 row(s) returned                                          0.000 sec / 0.000 sec
15  19:04:30  show create table hello.employee                         1 row(s) returned                                          0.000 sec / 0.000 sec
16  19:05:50  show tables                                              2 row(s) returned                                          0.000 sec / 0.000 sec
```

8. Insert 5 to 10 rows in each of the tables of your Database.

Inserting data into employee table :

Query : insert into employee values(103, 'Angela', 'Martin', '1971-06-25', 'F', 63000, 102, 2);

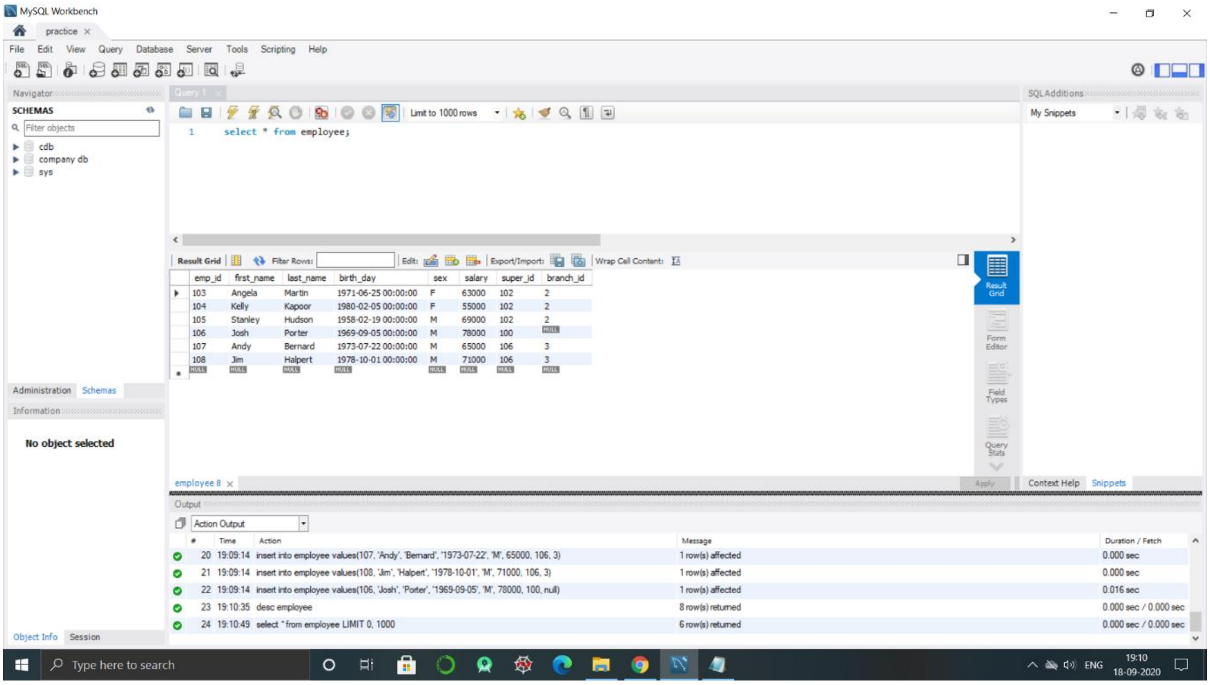
Output :



```
insert into employee values(103, 'Angela', 'Martin', '1971-06-25', 'F', 63000, 102, 2);
insert into employee values(104, 'Kelly', 'Kapoor', '1980-02-05', 'F', 55000, 102, 2);
insert into employee values(105, 'Stanley', 'Hudson', '1958-02-19', 'M', 69000, 102, 2);
insert into employee values(107, 'Andy', 'Bernard', '1973-07-22', 'M', 65000, 106, 3);
insert into employee values(108, 'Jim', 'Halpert', '1978-10-01', 'M', 71000, 106, 3);
insert into employee values(106, 'Josh', 'Porter', '1969-09-05', 'M', 78000, 100, null);
```

```
#   Time      Action                                                                          Message             Duration / Fetch
18  19:09:14  insert into employee values(104, 'Kelly', 'Kapoor', '1980-02-05', 'F', 55000, 102, 2)      1 row(s) affected   0.015 sec
19  19:09:14  insert into employee values(105, 'Stanley', 'Hudson', '1958-02-19', 'M', 69000, 102, 2)   1 row(s) affected   0.016 sec
20  19:09:14  insert into employee values(107, 'Andy', 'Bernard', '1973-07-22', 'M', 65000, 106, 3)     1 row(s) affected   0.000 sec
21  19:09:14  insert into employee values(108, 'Jim', 'Halpert', '1978-10-01', 'M', 71000, 106, 3)      1 row(s) affected   0.000 sec
22  19:09:14  insert into employee values(106, 'Josh', 'Porter', '1969-09-05', 'M', 78000, 100, null)   1 row(s) affected   0.016 sec
```

Verifying whether data has been inserted properly or not by fetching the data using select query :



```
select * from employee;
```

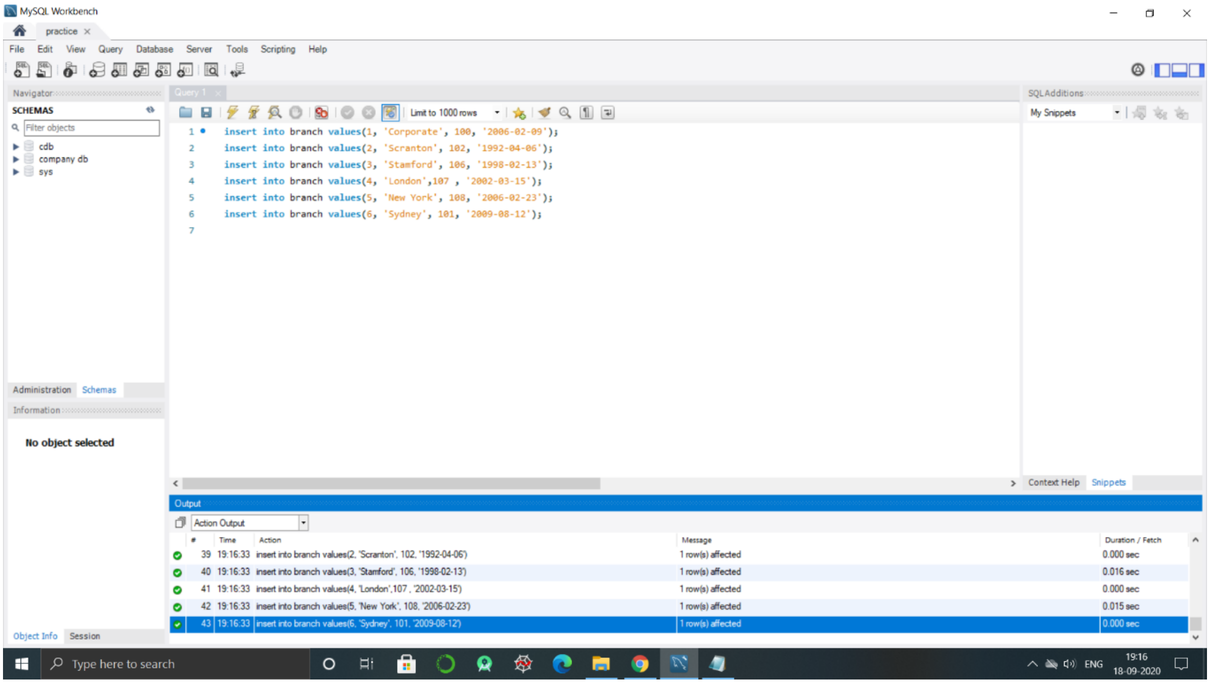
	emp_id	first_name	last_name	birth_day	sex	salary	super_id	branch_id
▶	103	Angela	Martin	1971-06-25 00:00:00	F	63000	102	2
	104	Kelly	Kapoor	1980-02-05 00:00:00	F	55000	102	2
	105	Stanley	Hudson	1958-02-19 00:00:00	M	69000	102	2
	106	Josh	Porter	1969-09-05 00:00:00	M	78000	100	NULL
	107	Andy	Bernard	1973-07-22 00:00:00	M	65000	106	3
	108	Jim	Halpert	1978-10-01 00:00:00	M	71000	106	3
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
#   Time      Action                                                                          Message            Duration / Fetch
20  19:09:14  insert into employee values(107, 'Andy', 'Bernard', '1973-07-22', 'M', 65000, 106, 3)   1 row(s) affected  0.000 sec
21  19:09:14  insert into employee values(108, 'Jim', 'Halpert', '1978-10-01', 'M', 71000, 106, 3)    1 row(s) affected  0.000 sec
22  19:09:14  insert into employee values(106, 'Josh', 'Porter', '1969-09-05', 'M', 78000, 100, null) 1 row(s) affected  0.016 sec
23  19:10:35  desc employee                                                                   8 row(s) returned  0.000 sec / 0.000 sec
24  19:10:49  select * from employee LIMIT 0, 1000                                            6 row(s) returned  0.000 sec / 0.000 sec
```

Inserting data into branch table :

Query : insert into branch values(4, 'London',107 , '2002-03-15');

Output :



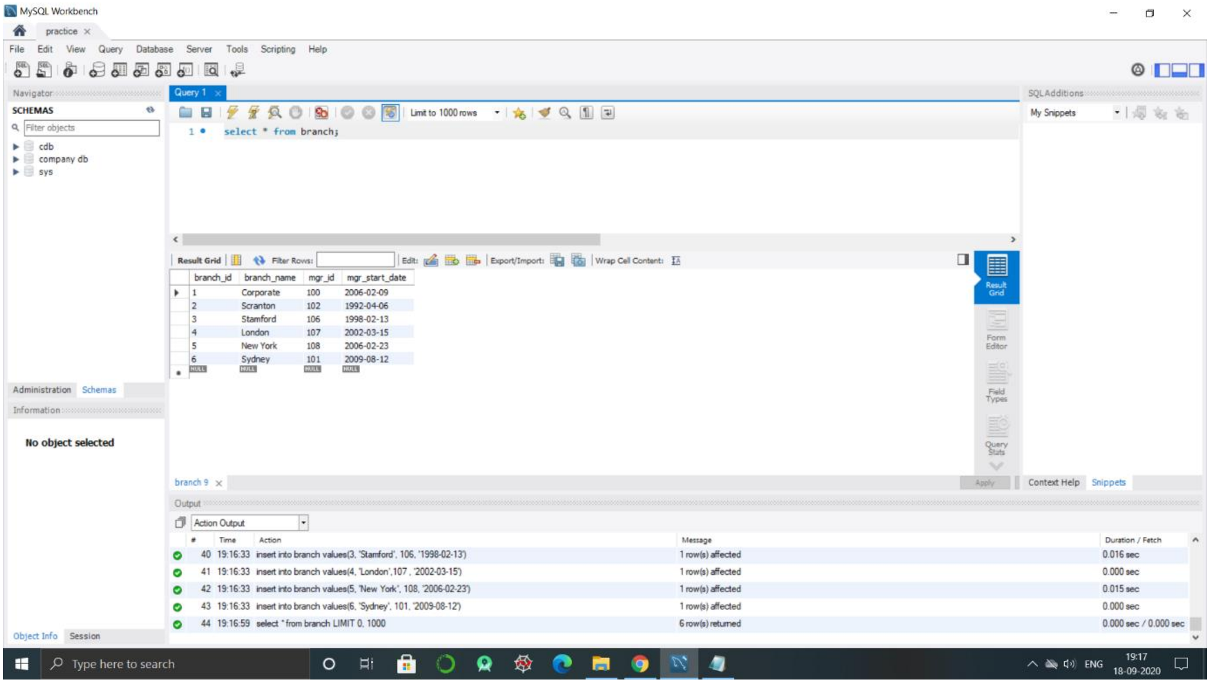
```
insert into branch values(1, 'Corporate', 100, '2006-02-09');
insert into branch values(2, 'Scranton', 102, '1992-04-06');
insert into branch values(3, 'Stamford', 106, '1998-02-13');
insert into branch values(4, 'London',107 , '2002-03-15');
insert into branch values(5, 'New York', 108, '2006-02-23');
insert into branch values(6, 'Sydney', 101, '2009-08-12');
```

```
#   Time      Action                                                        Message            Duration / Fetch
39  19:16:33  insert into branch values(2, 'Scranton', 102, '1992-04-06')   1 row(s) affected  0.000 sec
40  19:16:33  insert into branch values(3, 'Stamford', 106, '1998-02-13')   1 row(s) affected  0.016 sec
41  19:16:33  insert into branch values(4, 'London',107 , '2002-03-15')     1 row(s) affected  0.000 sec
42  19:16:33  insert into branch values(5, 'New York', 108, '2006-02-23')   1 row(s) affected  0.015 sec
43  19:16:33  insert into branch values(6, 'Sydney', 101, '2009-08-12')     1 row(s) affected  0.000 sec
```

9. Show usage of Simple Select Statement:

Query1 : select * from branch;

Output :



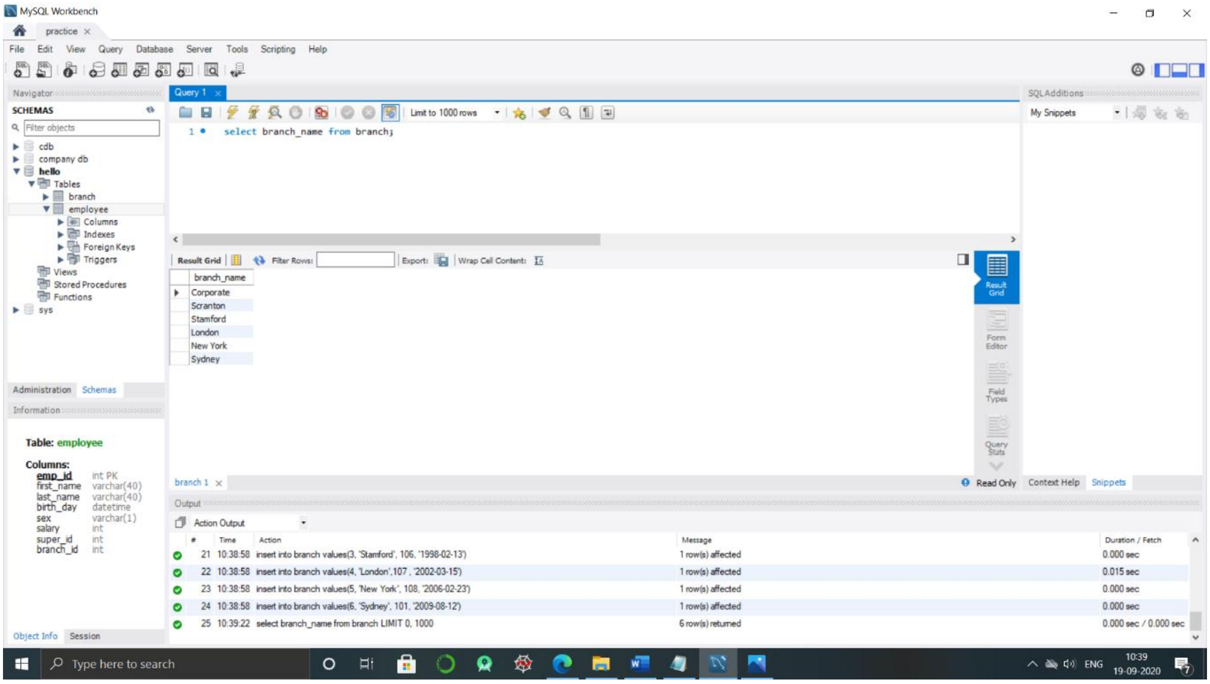
```
select * from branch;
```

branch_id	branch_name	mgr_id	mgr_start_date
1	Corporate	100	2006-02-09
2	Scranton	102	1992-04-06
3	Stamford	106	1998-02-13
4	London	107	2002-03-15
5	New York	108	2006-02-23
6	Sydney	101	2009-08-12
NULL	NULL	NULL	NULL

```
#   Time      Action                                                     Message             Duration / Fetch
40  19:16:33  insert into branch values(3, 'Stamford', 106, '1998-02-13')   1 row(s) affected   0.016 sec
41  19:16:33  insert into branch values(4, 'London',107 , '2002-03-15')     1 row(s) affected   0.000 sec
42  19:16:33  insert into branch values(5, 'New York', 108, '2006-02-23')   1 row(s) affected   0.015 sec
43  19:16:33  insert into branch values(6, 'Sydney', 101, '2009-08-12')     1 row(s) affected   0.000 sec
44  19:16:59  select * from branch LIMIT 0, 1000                            6 row(s) returned   0.000 sec / 0.000 sec
```

Query 2 : select branch_name from branch;

Output :



```
select branch_name from branch;
```

branch_name
Corporate
Scranton
Stamford
London
New York
Sydney

```
Table: employee

Columns:
emp_id       int PK
first_name   varchar(40)
last_name    varchar(40)
birth_day    datetime
sex          varchar(1)
salary       int
super_id     int
branch_id    int
```

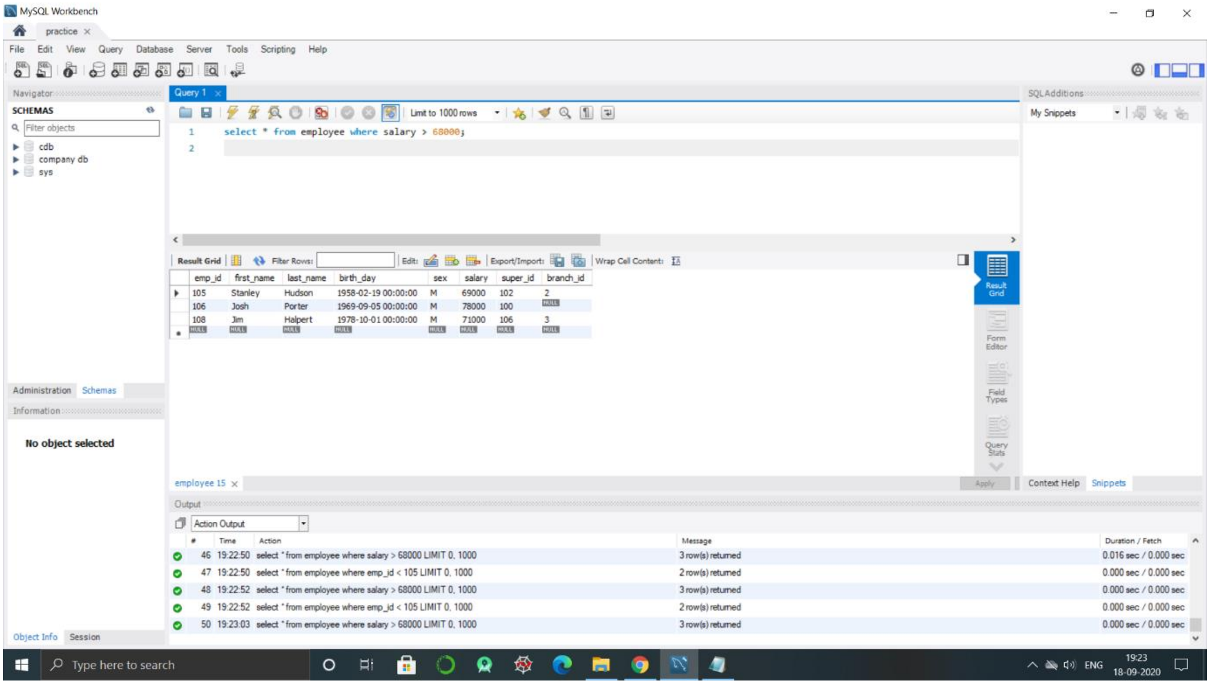
```
#   Time      Action                                                     Message             Duration / Fetch
21  10:38:58  insert into branch values(3, 'Stamford', 106, '1998-02-13')   1 row(s) affected   0.000 sec
22  10:38:58  insert into branch values(4, 'London',107 , '2002-03-15')     1 row(s) affected   0.015 sec
23  10:38:58  insert into branch values(5, 'New York', 108, '2006-02-23')   1 row(s) affected   0.000 sec
24  10:38:58  insert into branch values(6, 'Sydney', 101, '2009-08-12')     1 row(s) affected   0.000 sec
25  10:39:22  select branch_name from branch LIMIT 0, 1000                  6 row(s) returned   0.000 sec / 0.000 sec
```

10. Select Statement using Relational and Logical operators.

10.a. Using Relational Operators :

1. “>” operator:

Query : select * from employee where salary > 68000;



```sql
select * from employee where salary > 68000;
```

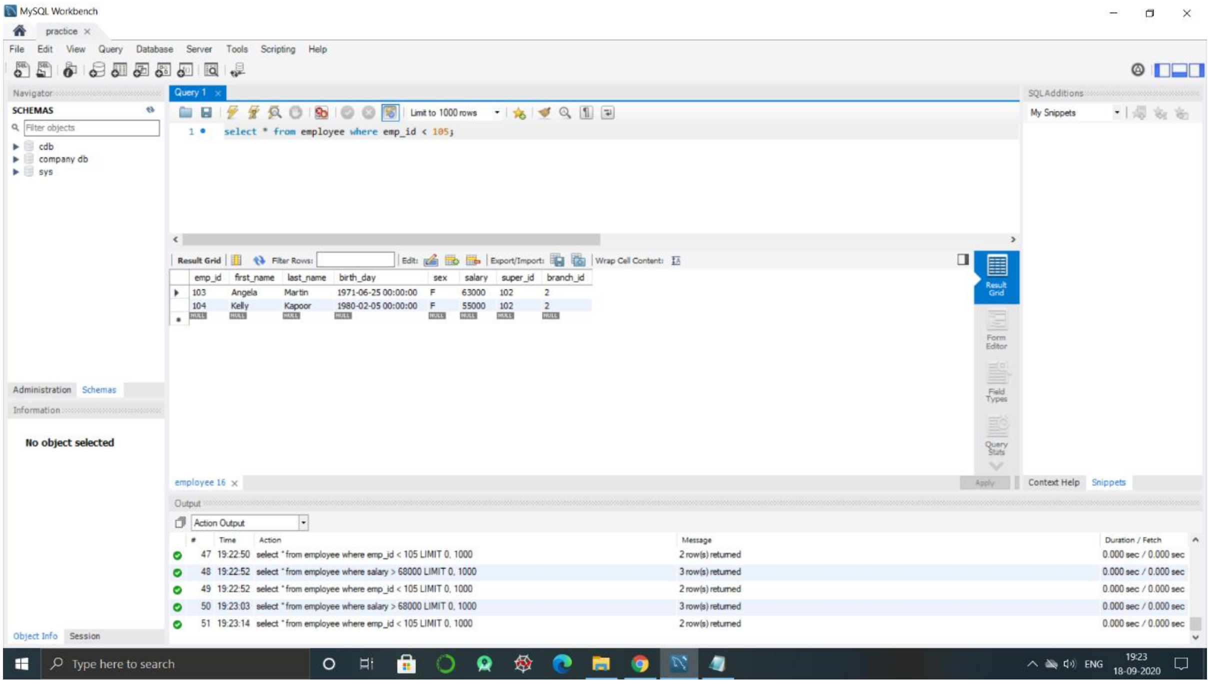
emp_id	first_name	last_name	birth_day	sex	salary	super_id	branch_id
105	Stanley	Hudson	1958-02-19 00:00:00	M	69000	102	2
106	Josh	Porter	1969-09-05 00:00:00	M	78000	100	NULL
108	Jim	Halpert	1978-10-01 00:00:00	M	71000	106	3
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
#   Time      Action                                                    Message            Duration / Fetch
46  19:22:50  select * from employee where salary > 68000 LIMIT 0, 1000  3 row(s) returned  0.016 sec / 0.000 sec
47  19:22:50  select * from employee where emp_id < 105 LIMIT 0, 1000    2 row(s) returned  0.000 sec / 0.000 sec
48  19:22:52  select * from employee where salary > 68000 LIMIT 0, 1000  3 row(s) returned  0.000 sec / 0.000 sec
49  19:22:52  select * from employee where emp_id < 105 LIMIT 0, 1000    2 row(s) returned  0.000 sec / 0.000 sec
50  19:23:03  select * from employee where salary > 68000 LIMIT 0, 1000  3 row(s) returned  0.000 sec / 0.000 sec
```

2. “<” operator:

Query : select * from employee where emp_id < 105;

Output :



```sql
select * from employee where emp_id < 105;
```

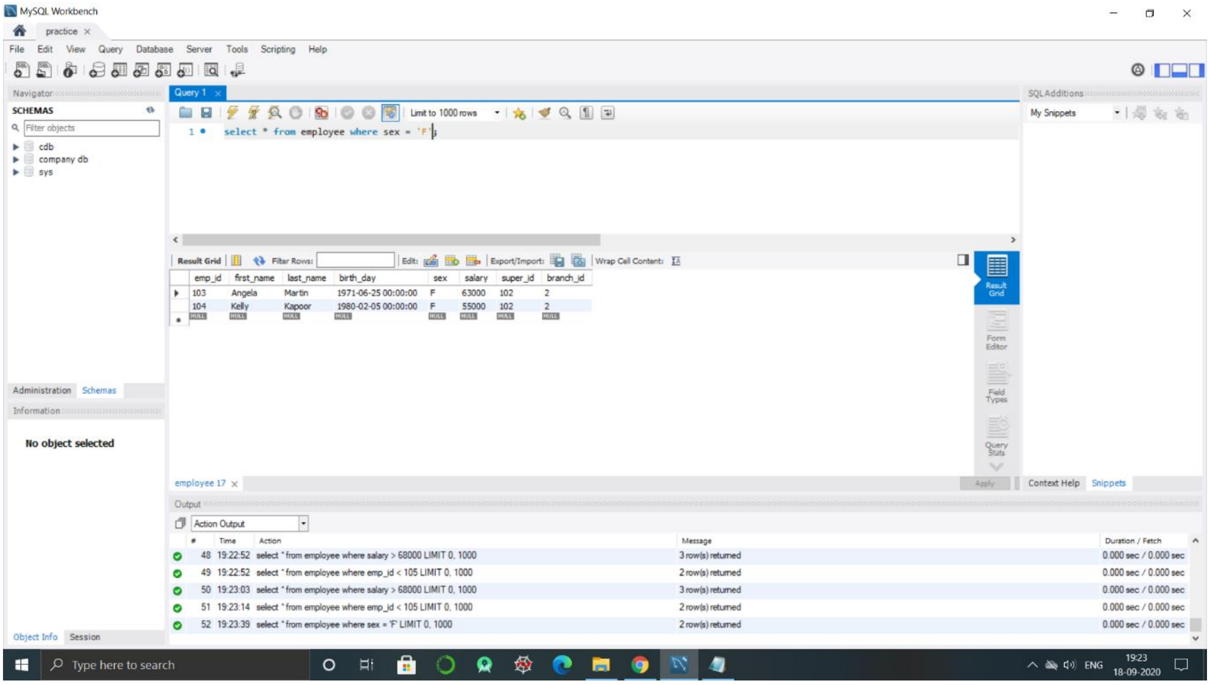
emp_id	first_name	last_name	birth_day	sex	salary	super_id	branch_id
103	Angela	Martin	1971-06-25 00:00:00	F	63000	102	2
104	Kelly	Kapoor	1980-02-05 00:00:00	F	55000	102	2
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
#   Time      Action                                                    Message            Duration / Fetch
47  19:22:50  select * from employee where emp_id < 105 LIMIT 0, 1000    2 row(s) returned  0.000 sec / 0.000 sec
48  19:22:52  select * from employee where salary > 68000 LIMIT 0, 1000  3 row(s) returned  0.000 sec / 0.000 sec
49  19:22:52  select * from employee where emp_id < 105 LIMIT 0, 1000    2 row(s) returned  0.000 sec / 0.000 sec
50  19:23:03  select * from employee where salary > 68000 LIMIT 0, 1000  3 row(s) returned  0.000 sec / 0.000 sec
51  19:23:14  select * from employee where emp_id < 105 LIMIT 0, 1000    2 row(s) returned  0.000 sec / 0.000 sec
```

3. “=” operator :

Query : select * from employee where sex = 'F';

Output :



```
1 • select * from employee where sex = 'F';
```

emp_id	first_name	last_name	birth_day	sex	salary	super_id	branch_id
103	Angela	Martin	1971-06-25 00:00:00	F	63000	102	2
104	Kelly	Kapoor	1980-02-05 00:00:00	F	55000	102	2
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

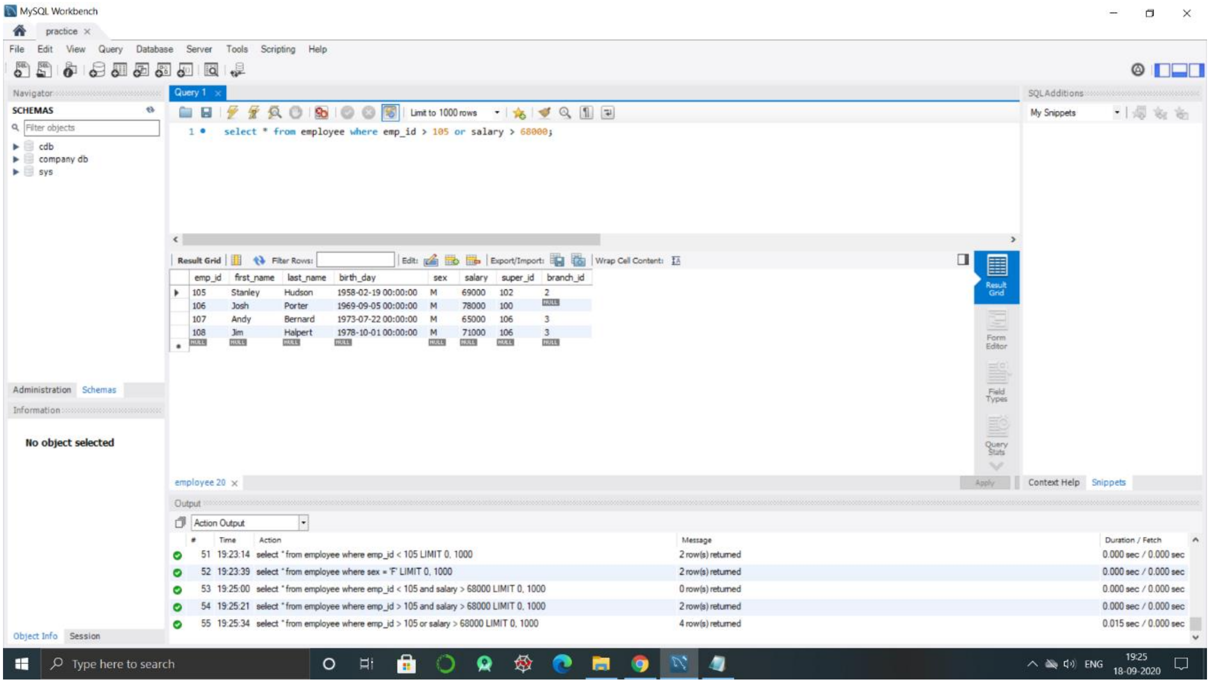
```
#   Time      Action                                                      Message              Duration / Fetch
48  19:22:52  select * from employee where salary > 68000 LIMIT 0, 1000   3 row(s) returned    0.000 sec / 0.000 sec
49  19:22:52  select * from employee where emp_id < 105 LIMIT 0, 1000    2 row(s) returned    0.000 sec / 0.000 sec
50  19:23:03  select * from employee where salary > 68000 LIMIT 0, 1000   3 row(s) returned    0.000 sec / 0.000 sec
51  19:23:14  select * from employee where emp_id < 105 LIMIT 0, 1000    2 row(s) returned    0.000 sec / 0.000 sec
52  19:23:39  select * from employee where sex = 'F' LIMIT 0, 1000        2 row(s) returned    0.000 sec / 0.000 sec
```

10.b. Using Logical Operators :

1. “OR” operator :

Query : select * from employee where emp_id > 105 or salary > 68000;

Output :



```
1 • select * from employee where emp_id > 105 or salary > 68000;
```

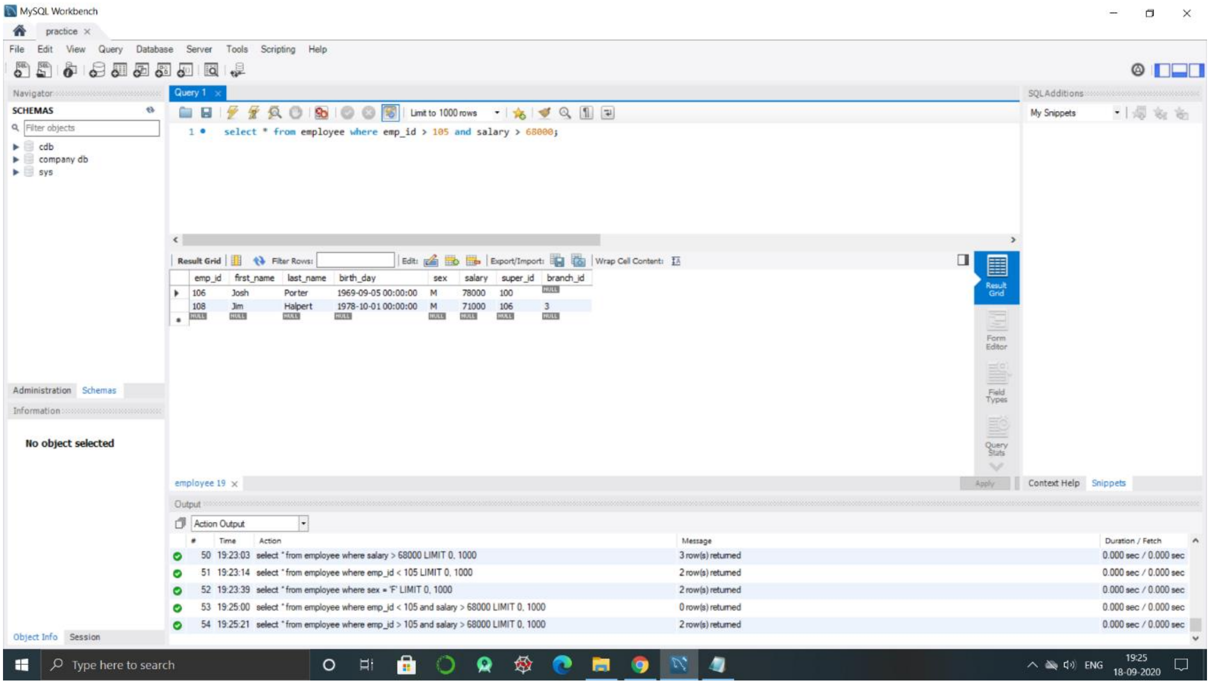
emp_id	first_name	last_name	birth_day	sex	salary	super_id	branch_id
105	Stanley	Hudson	1958-02-19 00:00:00	M	69000	102	2
106	Josh	Porter	1969-09-05 00:00:00	M	78000	100	NULL
107	Andy	Bernard	1973-07-22 00:00:00	M	65000	106	3
108	Jim	Halpert	1978-10-01 00:00:00	M	71000	106	3
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
#   Time      Action                                                                     Message              Duration / Fetch
51  19:23:14  select * from employee where emp_id < 105 LIMIT 0, 1000                   2 row(s) returned    0.000 sec / 0.000 sec
52  19:23:39  select * from employee where sex = 'F' LIMIT 0, 1000                       2 row(s) returned    0.000 sec / 0.000 sec
53  19:25:00  select * from employee where emp_id < 105 and salary > 68000 LIMIT 0, 1000  0 row(s) returned    0.000 sec / 0.000 sec
54  19:25:21  select * from employee where emp_id > 105 and salary > 68000 LIMIT 0, 1000  2 row(s) returned    0.000 sec / 0.000 sec
55  19:25:34  select * from employee where emp_id > 105 or salary > 68000 LIMIT 0, 1000   4 row(s) returned    0.015 sec / 0.000 sec
```

2. “AND” operator :

Query : select * from employee where emp_id > 105 and salary > 68000;

Output :



```
select * from employee where emp_id > 105 and salary > 68000;
```

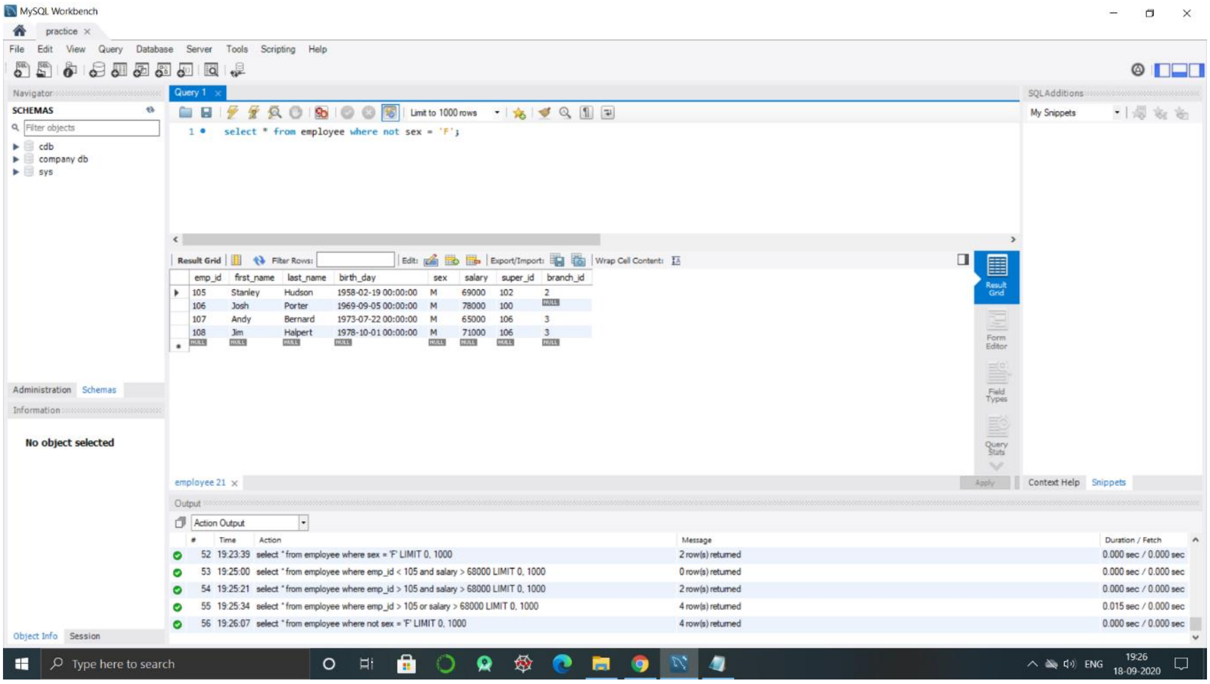
emp_id	first_name	last_name	birth_day	sex	salary	super_id	branch_id
106	Josh	Porter	1969-09-05 00:00:00	M	78000	100	NULL
108	Jim	Halpert	1978-10-01 00:00:00	M	71000	106	3
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

#	Time	Action	Message	Duration / Fetch
50	19:23:03	select * from employee where salary > 68000 LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
51	19:23:14	select * from employee where emp_id < 105 LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
52	19:23:39	select * from employee where sex = 'F' LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
53	19:25:00	select * from employee where emp_id < 105 and salary > 68000 LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
54	19:25:21	select * from employee where emp_id > 105 and salary > 68000 LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec

3. “NOT” operator :

Query : select * from employee where not sex = 'F';

Output :



```
select * from employee where not sex = 'F';
```

emp_id	first_name	last_name	birth_day	sex	salary	super_id	branch_id
105	Stanley	Hudson	1958-02-19 00:00:00	M	69000	102	2
106	Josh	Porter	1969-09-05 00:00:00	M	78000	100	NULL
107	Andy	Bernard	1973-07-22 00:00:00	M	65000	106	3
108	Jim	Halpert	1978-10-01 00:00:00	M	71000	106	3
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

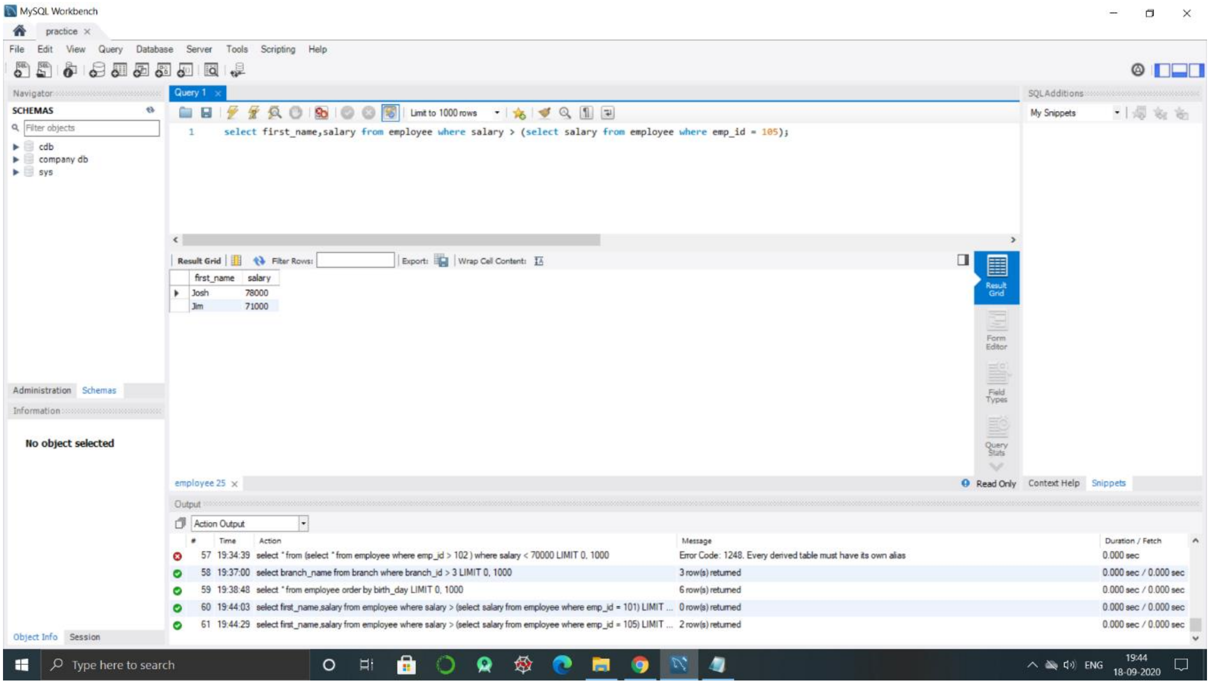
#	Time	Action	Message	Duration / Fetch
52	19:23:39	select * from employee where sex = 'F' LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
53	19:25:00	select * from employee where emp_id < 105 and salary > 68000 LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
54	19:25:21	select * from employee where emp_id > 105 and salary > 68000 LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
55	19:25:34	select * from employee where emp_id > 105 or salary > 68000 LIMIT 0, 1000	4 row(s) returned	0.015 sec / 0.000 sec
56	19:26:07	select * from employee where not sex = 'F' LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec

11. One simple Subquery using select.

Query :

```
select first_name,salary from employee where salary > (select salary from employee where emp_id = 105);
```

Output :



```
1      select first_name,salary from employee where salary > (select salary from employee where emp_id = 105);
```

first_name	salary
Josh	78000
Jim	71000

```
#   Time      Action                                                                                        Message                                                  Duration / Fetch
57  19:34:39  select * from (select * from employee where emp_id > 102 ) where salary < 70000 LIMIT 0, 1000   Error Code: 1248. Every derived table must have its own alias  0.000 sec
58  19:37:00  select branch_name from branch where branch_id > 3 LIMIT 0, 1000                              3 row(s) returned                                        0.000 sec / 0.000 sec
59  19:38:48  select * from employee order by birth_day LIMIT 0, 1000                                       6 row(s) returned                                        0.000 sec / 0.000 sec
60  19:44:03  select first_name,salary from employee where salary > (select salary from employee where emp_id = 101) LIMIT ...   0 row(s) returned    0.000 sec / 0.000 sec
61  19:44:29  select first_name,salary from employee where salary > (select salary from employee where emp_id = 105) LIMIT ...   2 row(s) returned    0.000 sec / 0.000 sec
```

- **By Group 16**

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