

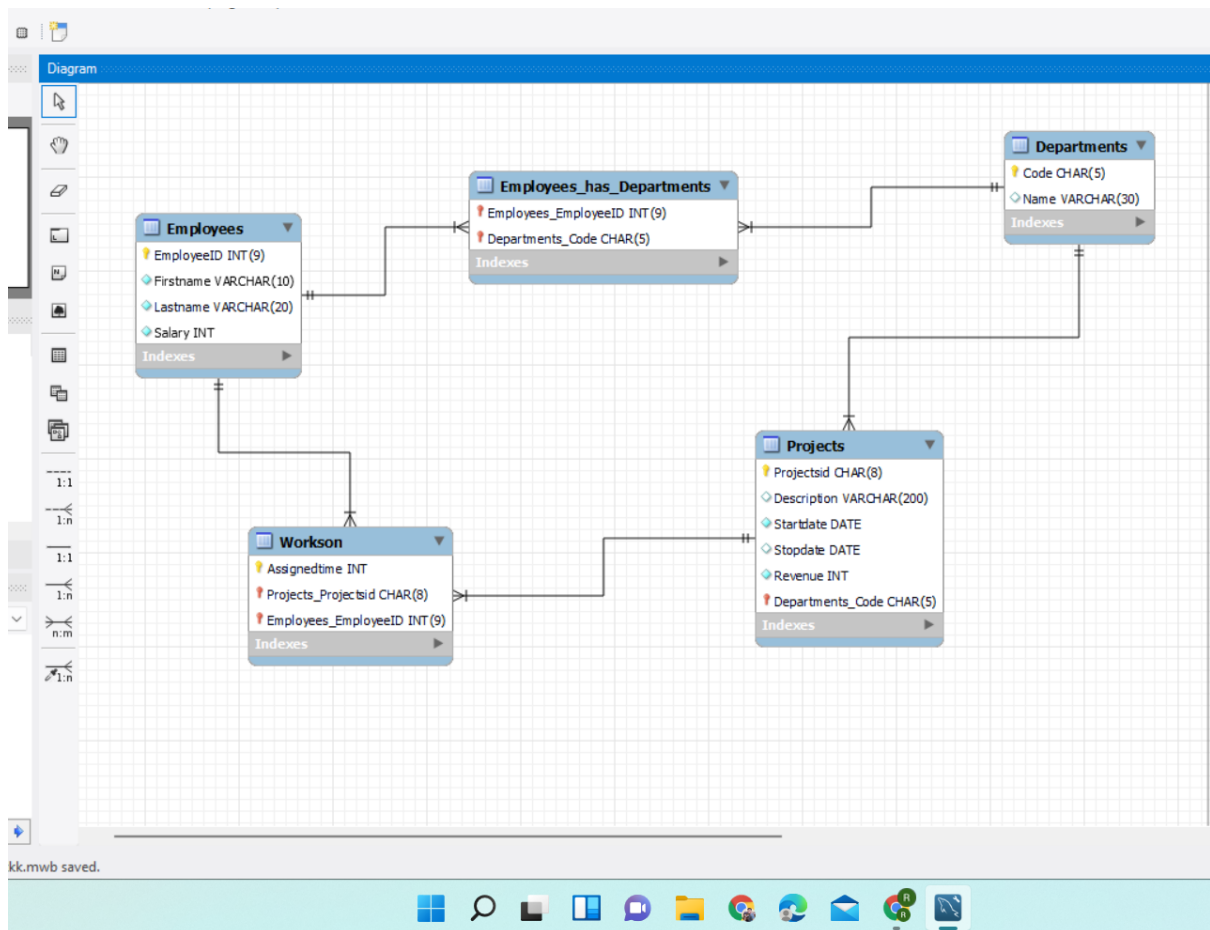
LAB ASSIGNMENT-4

Name-Aryan Patel

Roll no-20bcs097

Subject-CS310(DBMS)

ER-diagram



Employee-table

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: SQL File 6' x

1 • `SELECT * FROM employees;`

Execute the selected portion of the script or everything, if there is no selection

Result Grid

EmployeeID	Firstname	Lastname	Deptcode	Salary
1	Patl	Abhay	1111	120000.00
2	Tata	Amit	1112	130000.00
3	Agarwal	Ajay	1113	140000.00
4	Anand	OM	1114	10000.00
5	Reddy	Aman	1115	20000.00
6	vasava	soral	1116	30000.00
7	Patel	priya	1117	150000.00
8	Bhagat	Dhyey	1118	700000.00

Schema: assignment_02

employees 2 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
16	18:32:56	CREATE TABLE Departments(Code char(5), Name Varchar(30), Managerid Numeric(9),)	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds ...	0.000 sec
17	18:33:50	CREATE TABLE Departments(Code char(5), Name Varchar(30), Managerid Numeric(9),)	0 row(s) affected	0.063 sec
18	18:33:50	INSERT INTO Departments(Code , Name , Managerid) VALUES ("1111", "AJAY", 1), ("...	8 row(s) affected Records: 8 Duplicates: 0 Warnings: 0	0.015 sec
19	18:38:29	CREATE TABLE Projects(Projectid char(8), Deptcode char(5), Description Varchar(2...	Error Code: 1050. Table 'projects' already exists	0.032 sec
20	18:40:53	SELECT * FROM departments LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
21	18:41:18	SELECT * FROM employees LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Type here to search

24°C Haze 16-02-2022

Department-table

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: SQL File 6' x

1 • `SELECT * FROM departments;`

Result Grid

Code	Name	Managerid
1111	AJAY	1
1112	RAMESH	2
1113	AMIT	3
1114	AJAY	4
1115	RAMESH	5
1116	AMIT	6
1117	AJAY	7
1118	RAMESH	8

Schema: assignment_02

departments 1 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
15	18:32:53	INSERT INTO Employees(EmployeeID, Firstname, Lastname, Deptcode, Salary) VALUES ...	8 row(s) affected Records: 8 Duplicates: 0 Warnings: 0	0.000 sec
16	18:32:56	CREATE TABLE Departments(Code char(5), Name Varchar(30), Managerid Numeric(9),)	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds ...	0.000 sec
17	18:33:50	CREATE TABLE Departments(Code char(5), Name Varchar(30), Managerid Numeric(9),)	0 row(s) affected	0.063 sec
18	18:33:50	INSERT INTO Departments(Code , Name , Managerid) VALUES ("1111", "AJAY", 1), ("...	8 row(s) affected Records: 8 Duplicates: 0 Warnings: 0	0.015 sec
19	18:38:29	CREATE TABLE Projects(Projectid char(8), Deptcode char(5), Description Varchar(2...	Error Code: 1050. Table 'projects' already exists	0.032 sec
20	18:40:53	SELECT * FROM departments LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Type here to search

24°C Haze 16-02-2022

Project-table

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with 'assignment_02' selected, containing tables 'departments', 'employees', and 'projects'. The 'employees' table is highlighted. The main query editor shows a SQL query: `SELECT * FROM projects WHERE Revenue > 40000;`. The 'Result Grid' shows 6 rows of data from the 'projects' table. The 'Output' tab at the bottom shows a list of actions and their results. The last action, at 19:10:30, is a SELECT query that failed with Error Code 1064: 'You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ''LIMIT 0, 1000'' at line 1'.

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: SQL File 7*

SCHEMAS

Filter objects

Functions

assignment_02

Tables

departments

employees

projects

Columns

Projectid

Deptcode

Description

Startdate

Stopdate

Revenue

Indexes

Foreign Keys

Administration Schemas

Information

Table: employees

Columns:

EmployeeID decimal(9,0)

Firstname varchar(10)

Lastname varchar(20)

Deptcode char(5)

Salary decimal(9,2)

Result Grid

Filter Rows: Exports Wrap Call Contents

Projectid	Deptcode	Description	Startdate	Stopdate	Revenue
11	A	SERFFZFHN	2004-07-01	2004-07-21	330000.00
12	B	SBRMCDP	2004-01-01	2004-04-21	190000.00
13	C	SFBVYDN	2004-09-01	2004-11-01	90000.00
14	D	FBHFVGF	2004-01-01	2004-04-02	110000.00
16	F	SFGSFGS	2004-07-01	2004-11-21	60000.00
18	H	SFHSDFG	2004-01-01	2004-07-21	150000.00

projects 5 x

Read Only Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
28	19:05:32	INSERT INTO projects(Projectid , Deptcode , Description , Startdate , Stopdate , Revenue) ...	8 row(s) affected Records: 8 Duplicates: 0 Warnings: 0	0.000 sec
29	19:05:42	SELECT * FROM projects LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
30	19:08:09	SELECT Firstname , Lastname FROM employees LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
31	19:10:05	SELECT * FROM projects LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
32	19:10:05	WHERE Revenue > 40000	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ''LIMIT 0, 1000'' at line 1	0.000 sec
33	19:10:30	SELECT * FROM projects WHERE Revenue > 40000 LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Type here to search

24°C

ENG

19:10

16-02-2022

Workson table

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

sub_category_details
workson
Views
Stored Procedures
Functions
assignment_02
Tables
departments
employees
projects
workson
Views
Stored Procedures
Functions
travel
Administration
Schemas
Information

SQL File 6" x

1 • SELECT * FROM workson;

Result Grid

EmployeeID	Projectid	Assignedtime
1	11	01-05-2004
2	12	01-03-2005
3	13	01-12-2004
4	14	01-03-2004
5	15	01-12-2003
6	16	01-05-2004
7	17	01-02-2004
8	18	20-09-2004

Schema: assignment_02

workson 4 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
18	18:33:50	INSERT INTO Departments(Code, Name, Managerid) VALUES ('1111', 'AJAY', 1);	8 row(s) affected Records: 8 Duplicates: 0 Warnings: 0	0.015 sec
19	18:38:29	CREATE TABLE Projects(Projectid char(3), Deptcode char(5), Description Varchar(2...	Error Code: 1050. Table 'projects' already exists	0.032 sec
20	18:40:53	SELECT * FROM departments LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
21	18:41:18	SELECT * FROM employees LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
22	18:41:28	SELECT * FROM projects LIMIT 0, 1000	0 row(s) returned	0.016 sec / 0.000 sec
23	18:41:53	SELECT * FROM workson LIMIT 0, 1000	8 row(s) returned	0.031 sec / 0.000 sec

Object Info Session

Type here to search

24°C Haze

ENG

18:41

16-02-2022

Q.1 - List the “magical” projects that have not started (indicated by a start date in the future or NULL) but are generating revenue.

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

Functions
assignment_02
Tables
departments
employees
projects
Columns
Projectid
Deptcode
Description
Startdate
Stopdate
Revenue
Indexes
Foreign Keys
Administration
Schemas
Information

SQL File 7" x

1 • SELECT * FROM projects
2 WHERE Startdate = NULL;

Result Grid

Projectid	Deptcode	Description	Startdate	Stopdate	Revenue
-----------	----------	-------------	-----------	----------	---------

Table: employees

Columns:

EmployeeID decimal(9,0)
Firstname varchar(10)
Lastname varchar(20)
Deptcode char(5)
Salary decimal(9,2)

projects 9 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
33	19:10:30	SELECT * FROM projects WHERE Revenue > 40000 LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec
34	19:11:24	SELECT * FROM projects WHERE Revenue BETWEEN 100000 AND 150000 LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
35	19:12:29	SELECT * FROM projects WHERE Startdate < July-1-2004 LIMIT 0, 1000	Error Code: 1054. Unknown column 'July' in 'where clause'	0.016 sec
36	19:12:46	SELECT * FROM projects WHERE Startdate < 2004-07-01 LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
37	19:12:54	SELECT * FROM projects WHERE Startdate < "2004-07-01" LIMIT 0, 1000	3 row(s) returned	0.031 sec / 0.000 sec
38	20:30:52	SELECT * FROM projects WHERE Startdate = NULL LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Type here to search

24°C

ENG

20:30

16-02-2022

Q.2 - Find the project ID and duration of each project.

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: SQL File 7* x

1 • SELECT Projectid FROM projects

2

Result Grid

Projectid
11
12
13
14
15
16
17
18

Table: employees

Columns:

- EmployeeID decimal(9,0)
- Firstname varchar(10)
- Lastname varchar(20)
- Deptcode char(5)
- Salary decimal(9,2)

Output

#	Time	Action	Message	Duration / Fetch
34	19:11:24	SELECT * FROM projects WHERE Revenue BETWEEN 100000 AND 150000 LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
35	19:12:29	SELECT * FROM projects WHERE Startdate < July-1-2004 LIMIT 0, 1000	Error Code: 1054. Unknown column 'July' in 'where clause'	0.016 sec
36	19:12:46	SELECT * FROM projects WHERE Startdate < 2004-07-01 LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
37	19:12:54	SELECT * FROM projects WHERE Startdate < "2004-07-01" LIMIT 0, 1000	3 row(s) returned	0.031 sec / 0.000 sec
38	20:30:52	SELECT * FROM projects WHERE Startdate = NULL LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
39	20:34:08	SELECT Projectid FROM projects LIMIT 0, 1000	8 row(s) returned	0.016 sec / 0.000 sec

Object Info Session

Type here to search

24°C

ENG

20:34

16-02-2022

Q.3 - Find the years a project started. Remove duplicates.

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator: SQL File 7* x

1 • SELECT DISTINCT Startdate FROM projects

2

Result Grid

Startdate
2004-07-01
2004-01-01
2004-09-01
2004-11-01
2004-12-21

Table: employees

Columns:

- EmployeeID decimal(9,0)
- Firstname varchar(10)
- Lastname varchar(20)
- Deptcode char(5)
- Salary decimal(9,2)

Output

#	Time	Action	Message	Duration / Fetch
36	19:12:46	SELECT * FROM projects WHERE Startdate < 2004-07-01 LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
37	19:12:54	SELECT * FROM projects WHERE Startdate < "2004-07-01" LIMIT 0, 1000	3 row(s) returned	0.031 sec / 0.000 sec
38	20:30:52	SELECT * FROM projects WHERE Startdate = NULL LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
39	20:34:08	SELECT Projectid FROM projects LIMIT 0, 1000	8 row(s) returned	0.016 sec / 0.000 sec
40	20:35:48	SELECT Startdate FROM projects LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
41	20:40:46	SELECT DISTINCT Startdate FROM projects LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec

Object Info Session

Type here to search

24°C

ENG

20:40

16-02-2022

Q.4 - For each project, list the ID and year the project started. Order the results in ascending order by year.

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 SELECT Startdate FROM projects
2 ORDER BY Startdate ASC
3
```

The 'Result Grid' shows the following data:

Startdate
2004-01-01
2004-01-01
2004-01-01
2004-07-01
2004-07-01
2004-09-01
2004-11-01
2004-12-21

The 'Output' pane shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
37	19:12:54	SELECT * FROM projects WHERE Startdate < "2004-07-01" LIMIT 0, 1000	3 row(s) returned	0.031 sec / 0.000 sec
38	20:30:52	SELECT * FROM projects WHERE Startdate = NULL LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
39	20:34:08	SELECT Projectid FROM projects LIMIT 0, 1000	8 row(s) returned	0.016 sec / 0.000 sec
40	20:35:48	SELECT Startdate FROM projects LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
41	20:40:46	SELECT DISTINCT Startdate FROM projects LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec
42	20:43:00	SELECT Startdate FROM projects ORDER BY Startdate ASC LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec

Q.5 - Find the average salary for all employees.

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 SELECT AVG(Salary) FROM employees
2
```

The 'Result Grid' shows the following data:

AVG(Salary)
331250.000000

The 'Output' pane shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
38	20:30:52	SELECT * FROM projects WHERE Startdate = NULL LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
39	20:34:08	SELECT Projectid FROM projects LIMIT 0, 1000	8 row(s) returned	0.016 sec / 0.000 sec
40	20:35:48	SELECT Startdate FROM projects LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
41	20:40:46	SELECT DISTINCT Startdate FROM projects LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec
42	20:43:00	SELECT Startdate FROM projects ORDER BY Startdate ASC LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
43	20:44:55	SELECT AVG(Salary) FROM employees LIMIT 0, 1000	1 row(s) returned	0.016 sec / 0.000 sec

Q.6 - Find the minimum salary for an employee.

The screenshot shows the MySQL Workbench interface. The SQL editor contains the query: `SELECT MIN(Salary) FROM employees;`. The result grid displays the minimum salary as 10000.00. The left sidebar shows the database schema with the 'employees' table selected. The bottom status bar shows the system time as 20:47 on 16-02-2022.

Table: employees

Columns:

- EmployeeID decimal(9,0)
- Firstname varchar(10)
- Lastname varchar(20)
- Deptcode char(5)
- Salary decimal(9,2)

Result Grid

MIN(Salary)
10000.00

Output

#	Time	Action	Message	Duration / Fetch
39	20:34:08	SELECT Projectid FROM projects LIMIT 0, 1000	8 row(s) returned	0.016 sec / 0.000 sec
40	20:35:48	SELECT Startdate FROM projects LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
41	20:40:46	SELECT DISTINCT Startdate FROM projects LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec
42	20:43:00	SELECT Startdate FROM projects ORDER BY Startdate ASC LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
43	20:44:55	SELECT AVG(Salary) FROM employees LIMIT 0, 1000	1 row(s) returned	0.016 sec / 0.000 sec
44	20:46:59	SELECT MIN(Salary) FROM employees LIMIT 0, 1000	1 row(s) returned	0.016 sec / 0.000 sec

Q.7 - Find the maximum salary for an employee.

The screenshot shows the MySQL Workbench interface. The SQL editor contains the query: `SELECT MAX(Salary) FROM employees;`. The result grid displays the maximum salary as 1500000.00. The left sidebar shows the database schema with the 'employees' table selected. The bottom status bar shows the system time as 20:49 on 16-02-2022.

Table: employees

Columns:

- EmployeeID decimal(9,0)
- Firstname varchar(10)
- Lastname varchar(20)
- Deptcode char(5)
- Salary decimal(9,2)

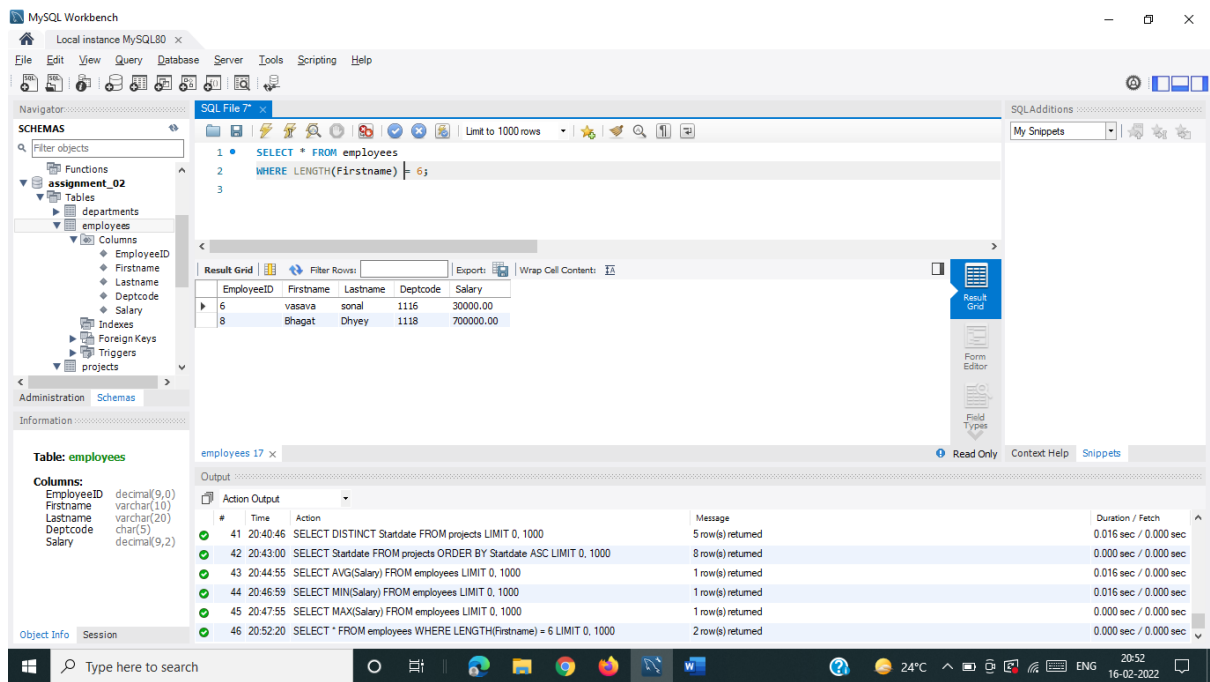
Result Grid

MAX(Salary)
1500000.00

Output

#	Time	Action	Message	Duration / Fetch
40	20:35:48	SELECT Startdate FROM projects LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
41	20:40:46	SELECT DISTINCT Startdate FROM projects LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec
42	20:43:00	SELECT Startdate FROM projects ORDER BY Startdate ASC LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
43	20:44:55	SELECT AVG(Salary) FROM employees LIMIT 0, 1000	1 row(s) returned	0.016 sec / 0.000 sec
44	20:46:59	SELECT MIN(Salary) FROM employees LIMIT 0, 1000	1 row(s) returned	0.016 sec / 0.000 sec
45	20:47:55	SELECT MAX(Salary) FROM employees LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Q.8 - Find list of employee whose name has exactly six characters.



The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

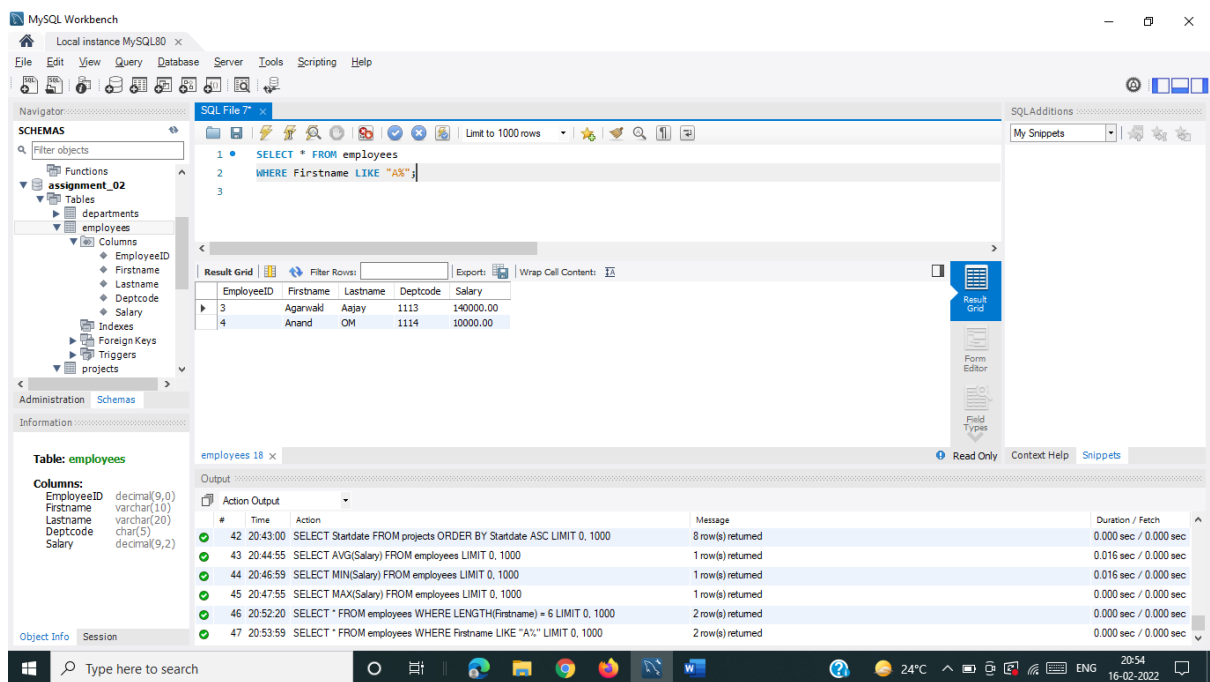
```
1 SELECT * FROM employees
2 WHERE LENGTH(Firstname) = 6;
3
```

The Result Grid displays the following data:

EmployeeID	Firstname	Lastname	Deptcode	Salary
6	vasava	sonal	1116	30000.00
8	Bhagat	Dhyey	1118	70000.00

The left sidebar shows the Schemas tree with the 'employees' table selected. The bottom status bar shows the system clock as 20:52 on 16-02-2022.

Q.9 - Find list of employees whose name starts with 'a'.



The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 SELECT * FROM employees
2 WHERE Firstname LIKE "A%";
3
```

The Result Grid displays the following data:

EmployeeID	Firstname	Lastname	Deptcode	Salary
3	Agarwal	Ajay	1113	140000.00
4	Anand	OM	1114	10000.00

The left sidebar shows the Schemas tree with the 'employees' table selected. The bottom status bar shows the system clock as 20:54 on 16-02-2022.

Q.10 - Find list of employees who works for more than one department/project.

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 SELECT * FROM employees
2 INNER JOIN departments
3 on employees.Deptcode = departments.Code;
```

The Result Grid displays the following data:

EmployeeID	Firstname	Lastname	Deptcode	Salary	Code	Name	Managerid
1	Patil	Abhay	1111	120000.00	1111	AJAY	1
2	Tata	Amit	1112	130000.00	1112	RAMESH	2
3	Agarwal	Ajay	1113	140000.00	1113	AMIT	3
4	Anand	OM	1114	10000.00	1114	AJAY	4
5	Reddy	Aman	1115	20000.00	1115	RAMESH	5
6	vasava	sonal	1116	30000.00	1116	AMIT	6
7	Patel	priya	1117	150000.00	1117	AJAY	7
8	Bhagat	Dhyey	1118	700000.00	1118	RAMESH	8

The Output pane shows the execution message: "8 row(s) returned".

Q.11 - Print all details of employees except the minimum and maximum paid employees.

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 SELECT * FROM employees
2 where Salary != (select max(Salary) from employees) AND Salary != (select min(Salary) from employees);
```

The Result Grid displays the following data:

EmployeeID	Firstname	Lastname	Deptcode	Salary
1	Patil	Abhay	1111	120000.00
2	Tata	Amit	1112	130000.00
3	Agarwal	Ajay	1113	140000.00
5	Reddy	Aman	1115	20000.00
6	vasava	sonal	1116	30000.00
8	Bhagat	Dhyey	1118	700000.00

The Output pane shows the execution message: "6 row(s) returned".