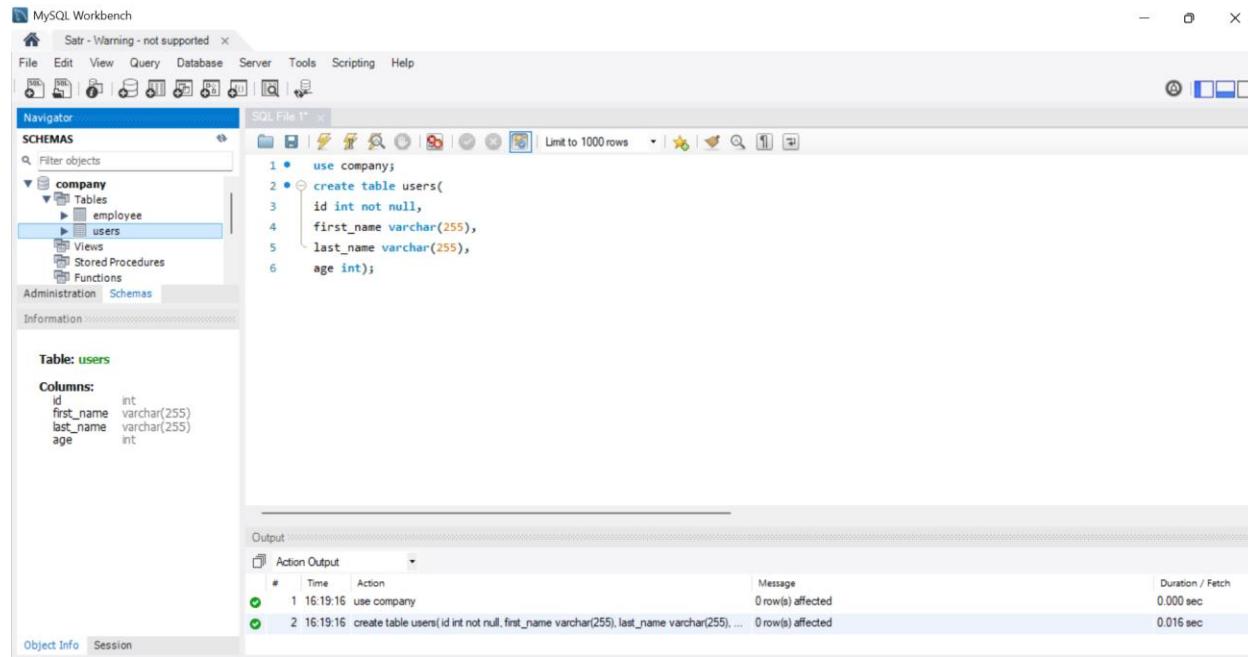


## Course: SQL 102 – Satr

Add primary key to existing table. ✓

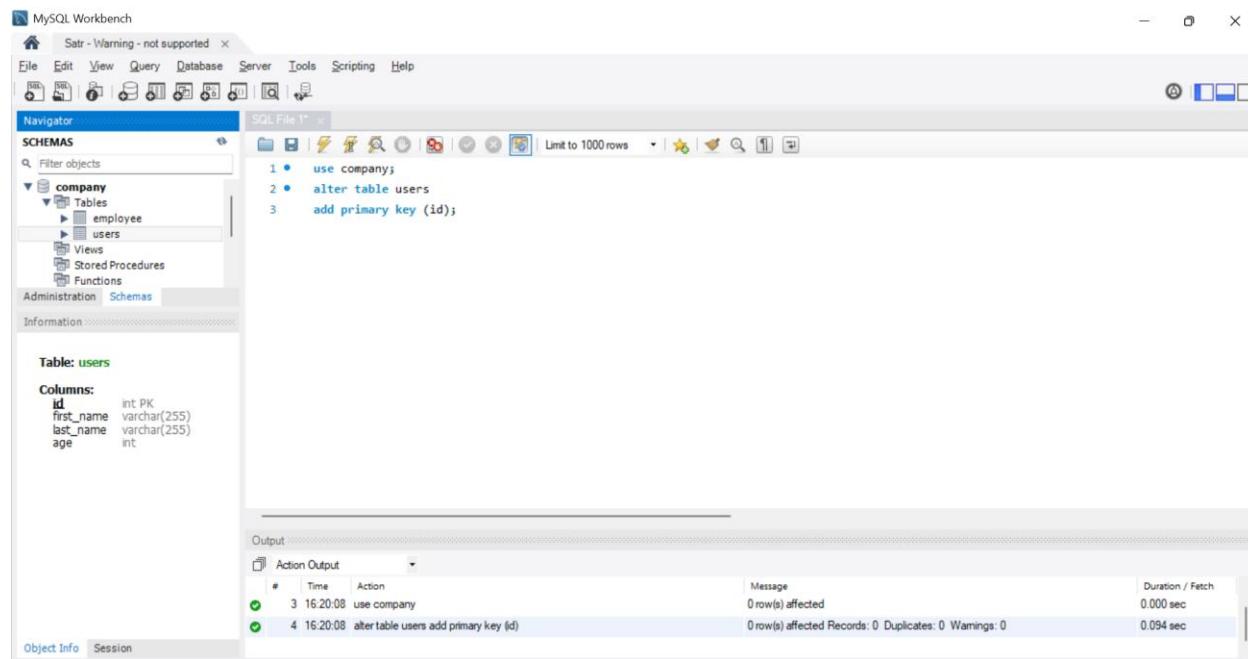


The screenshot shows the MySQL Workbench interface. In the Navigator pane, under the 'company' schema, the 'Tables' section is expanded, and the 'users' table is selected. The SQL Editor pane contains the following code:

```
1 • use company;
2 • create table users(
3     id int not null,
4     first_name varchar(255),
5     last_name varchar(255),
6     age int);
```

The Output pane shows the results of the execution:

#	Time	Action	Message	Duration / Fetch
1	16:19:16	use company	0 row(s) affected	0.000 sec
2	16:19:16	create table users(id int not null, first_name varchar(255), last_name varchar(255), ... age int);	0 row(s) affected	0.016 sec



The screenshot shows the MySQL Workbench interface. In the Navigator pane, under the 'company' schema, the 'Tables' section is expanded, and the 'users' table is selected. The SQL Editor pane contains the following code:

```
1 • use company;
2 • alter table users
3     add primary key (id);
```

The Output pane shows the results of the execution:

#	Time	Action	Message	Duration / Fetch
1	16:20:08	use company	0 row(s) affected	0.000 sec
2	16:20:08	alter table users add primary key (id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.094 sec

Use like for query. ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

**SCHEMAS**

- company
  - Tables
    - employee
    - users
  - Views
  - Stored Procedures
  - Functions

Administration Schemas

Information

**Table: employee**

**Columns:**

	<b>id</b>	<b>Employee_name</b>	<b>Employee_salary</b>	<b>Employee_bonus</b>
1	Ahmad	5000	1500	
7	Ali	5500	1000	
8	Asad	6000	2000	
*	NULL	NULL	NULL	NULL

**employee 3 ×**

Output

Action Output

#	Time	Action	Message	Duration / Fetch
17	16:25:09	use company	0 row(s) affected	0.000 sec
18	16:25:09	select * from employee where Employee_name like 'A%' LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

**SCHEMAS**

- company
  - Tables
    - employee
    - users
  - Views
  - Stored Procedures
  - Functions

Administration Schemas

Information

**Table: employee**

**Columns:**

	<b>id</b>	<b>Employee_name</b>	<b>Employee_salary</b>	<b>Employee_bonus</b>
1	Nasser	5500	1500	
5	NULL	NULL	NULL	NULL

**employee 8 ×**

Output

Action Output

#	Time	Action	Message	Duration / Fetch
27	16:27:23	use company	0 row(s) affected	0.000 sec
28	16:27:23	select * from employee where Employee_name like 'N____' LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Use distinct for query. ✓

MySQL Workbench Screenshot:

**SQL File 1\***

```

1 • use company;
2 • select distinct Employee_name from employee

```

**Result Grid**

Employee_name
Ahmad
Sarah
Nora
Nasser
Ali
Asad

**Output**

#	Time	Action	Message	Duration / Fetch
33	16:29:33	use company	0 row(s) affected	0.015 sec
34	16:29:33	select distinct Employee_name from employee LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

Use AS to rename columns. ✓

MySQL Workbench Screenshot:

**SQL File 1\***

```

1 • use company;
2 • select Employee_name as E_name from employee;

```

**Result Grid**

E_name
Ahmad
Sarah
Nora
Nasser
Ali
Asad

**Output**

#	Time	Action	Message	Duration / Fetch
35	16:34:32	use company	0 row(s) affected	0.000 sec
36	16:34:32	select Employee_name as E_name from employee LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

Operators: Comparison (more than, less than, ...), Logical (And, Or, ...), Arithmetic (+, -, \*, ...). ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

company

Tables

employee

users

Views

Stored Procedures

Functions

Administration Schemas

Information

Table: employee

Columns:

<b>id</b>	char(225)
	PK
Employee_name	varchar(225)
Employee_salary	int
Employee_bonus	int

Result Grid | Filter Rows: Export: Wrap Cell Content: 15

1 • select 5 > 3;

5  
4  
3  
2  
1

Result 17 ×

Action Output

#	Time	Action	Message	Duration / Fetch
41	16:36:58	select 3 <= 3 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
42	16:37:16	select 5 > 3 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Result Grid

Form Editor

Read Only

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

company

Tables

employee

users

Views

Stored Procedures

Functions

Administration Schemas

Information

Schema: company

Result Grid | Filter Rows: Export: Wrap Cell Content: 15

1 • select 1 and 1;

1  
and  
1  
1

Result 23 ×

Action Output

#	Time	Action	Message	Duration / Fetch
50	16:40:25	select A and 1 LIMIT 0, 1000	Error Code: 1054. Unknown column 'A' in field list'	0.031 sec
51	16:40:30	select 1 and 1 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Result Grid

Form Editor

Read Only

MySQL Workbench

Schemas: company

Tables: employee, users

SQL File 1\*

```
1 • select 3 * 4;
```

Result Grid | Filter Rows: Export: Wrap Cell Content: 15

3
4
12

Result 25 x

Action Output

#	Time	Action	Message	Duration / Fetch
52	16:40:59	select 3*4 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
53	16:41:07	select 3 * 4 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Copy table to new one. ✓

MySQL Workbench

Schemas: company

Tables: employee, users

SQL File 1\*

```
1 • use company;
2 • use company;
3 • create table manager
4 • select * from employee where Employee_salary >= 5500;
5
6 • select * from manager;
```

Result Grid | Filter Rows: Export: Wrap Cell Content: 15

ID	Employee_name	Employee_salary	Employee_bonus
3	Sarah	5500	2000
5	Nasser	5500	1500
7	Ali	5500	1000
8	Asad	6000	2000

manager 27 x

Action Output

#	Time	Action	Message	Duration / Fetch
61	16:46:57	create table manager select * from employee where Employee_salary >= 5500	4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0	0.062 sec
62	16:46:57	select * from manager LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Use aggregate function (avg). ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

company

Tables

employee

users

Views

Stored Procedures

Functions

Administration Schemas

Information

Schema: company

Result Grid | Filter Rows: Export: Wrap Cell Content: Limit to 1000 rows

```
1 use company;
2 select avg(Employee_salary)
3 from employee;
```

avg(Employee\_salary)

5416.6667

Result 28 x

Action Output

#	Time	Action	Message	Duration / Fetch
63	13:09:37	use company	0 row(s) affected	0.000 sec
64	13:09:37	select avg(Employee_salary) from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Use aggregate function (max). ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

company

Tables

employee

users

Views

Stored Procedures

Functions

Administration Schemas

Information

Schema: company

Result Grid | Filter Rows: Export: Wrap Cell Content: Limit to 1000 rows

```
1 use company;
2 select max(Employee_bonus)
3 from employee;
```

max(Employee\_bonus)

2000

Result 30 x

Action Output

#	Time	Action	Message	Duration / Fetch
67	13:11:51	use company	0 row(s) affected	0.000 sec
68	13:11:51	select max(Employee_bonus) from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Use aggregate function (min). ✓

The screenshot shows the MySQL Workbench interface. In the SQL Editor tab, the following query is run:

```
1 use company;
2 select min(Employee_salary)
3 from employee;
```

The Result Grid shows the output:

min(Employee_salary)
5000

The Output pane shows the action log:

#	Time	Action	Message	Duration / Fetch
71	13:13:05	use company	0 row(s) affected	0.000 sec
72	13:13:05	select min(Employee_salary) from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Use aggregate function (sum). ✓

The screenshot shows the MySQL Workbench interface. In the SQL Editor tab, the following query is run:

```
1 use company;
2 select sum(Employee_bonus)
3 from employee;
```

The Result Grid shows the output:

sum(Employee_bonus)
10000

The Output pane shows the action log:

#	Time	Action	Message	Duration / Fetch
75	13:14:06	use company	0 row(s) affected	0.000 sec
76	13:14:06	select sum(Employee_bonus) from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Use aggregate function (count). ✓

MySQL Workbench

Schemas: company

Tables: employee

```
SQL File 1*  
1 use company;  
2 select count(id)  
3 from employee;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Limit to 1000 rows | Result 37 | Read Only

	Action Output	Message	Duration / Fetch
81	13:15:17 use company	0 row(s) affected	0.000 sec
82	13:15:17 select count(*) from employee LIMIT 0, 1000	1 row(s) returned	0.015 sec / 0.000 sec

Object Info Session

Use Numeric function (pow). ✓

MySQL Workbench

Schemas: company

Tables: employee

```
SQL File 1*  
1 select pow(5,2);  
2
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Limit to 1000 rows | Result 41 | Read Only

	Action Output	Message	Duration / Fetch
88	13:18:54 select pow(2.5) LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
89	13:19:00 select pow(5,2) LIMIT 0, 1000	1 row(s) returned	0.016 sec / 0.000 sec

Object Info Session

Use Numeric function (abs). ✓

The screenshot shows the MySQL Workbench interface. In the SQL Editor tab, the query `select abs(-7);` is run. The Result Grid shows the output as 7. The Output pane shows the execution log with two entries: a previous query and the current one.

```

1 • select abs(-7);
2

Result 42 x
Output
Action Output
# Time Action
1 90 13:19:00 select pow(5,2) LIMIT 0, 1000
2 91 18:16:46 select abs(-7) LIMIT 0, 1000

Message
1 row(s) returned
Duration / Fetch
0.016 sec / 0.000 sec

1 91 18:16:46 select abs(-7) LIMIT 0, 1000
2 92 18:17:30 select abs(-7) LIMIT 0, 1000

Message
1 row(s) returned
Duration / Fetch
0.000 sec / 0.000 sec

```

Use Numeric function (div). ✓

The screenshot shows the MySQL Workbench interface. In the SQL Editor tab, the query `select 20 div 5;` is run. The Result Grid shows the output as 4. The Output pane shows the execution log with three entries: a previous query, the current one, and another query.

```

1 • select 20 div 5;
2

Result 43 x
Output
Action Output
# Time Action
1 90 13:19:00 select pow(5,2) LIMIT 0, 1000
2 91 18:16:46 select abs(-7) LIMIT 0, 1000
3 92 18:17:30 select 20 div 5 LIMIT 0, 1000

Message
1 row(s) returned
Duration / Fetch
0.000 sec / 0.000 sec

1 91 18:16:46 select abs(-7) LIMIT 0, 1000
2 92 18:17:30 select abs(-7) LIMIT 0, 1000
3 93 18:17:30 select 20 div 5 LIMIT 0, 1000

Message
1 row(s) returned
Duration / Fetch
0.047 sec / 0.000 sec

```

Use Numeric function (mod). ✓

The screenshot shows the MySQL Workbench interface. In the SQL Editor tab, the query `select mod(13,3);` is run, resulting in a single row with value 1. The Result Grid shows this row. The Output pane displays the execution log with two entries: one for the initial query and another for the mod() function call.

```
1 • select mod(13,3);
2

Result Grid | Filter Rows: Export: Wrap Cell Content: 15
mod(13,3)
1

Output
Action Output
# Time Action Message Duration / Fetch
1 92 18:17:30 select 20 div 5 LIMIT 0, 1000 1 row(s) returned 0.047 sec / 0.000 sec
2 93 18:18:16 select mod(13,3) LIMIT 0, 1000 1 row(s) returned 0.000 sec / 0.000 sec
```

Use string function (ascii). ✓

The screenshot shows the MySQL Workbench interface. In the SQL Editor tab, the query `select ascii('k');` is run, resulting in a single row with value 107. The Result Grid shows this row. The Output pane displays the execution log with two entries: one for the initial query and another for the ascii() function call.

```
1 • select ascii('k');
2

Result Grid | Filter Rows: Export: Wrap Cell Content: 15
ascii('k')
107

Output
Action Output
# Time Action Message Duration / Fetch
1 102 18:21:02 select ascii(kw) LIMIT 0, 1000 1 row(s) returned 0.000 sec / 0.000 sec
2 103 18:21:09 select ascii(k) LIMIT 0, 1000 1 row(s) returned 0.000 sec / 0.000 sec
```

Use string function (lower). ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

company

Tables

employee

Columns

Id Employee\_name Employee\_salary

Administration Schemas

Information

Schema: company

Object Info Session

SQL File 1\* ×

1 • select lower('DATABASE');

2

Result Grid | Filter Rows: Export: Wrap Cell Content: Limit to 1000 rows

lower('DATABASE')

database

Result 57 ×

Action Output

#	Time	Action	Message	Duration / Fetch
106	18:22:14	select lower(SQL) LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
107	18:22:33	select lower(DATABASE) LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Read Only

Object Info Session

Use string function (upper). ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

company

Tables

employee

Columns

Id Employee\_name Employee\_salary

Administration Schemas

Information

Schema: company

Object Info Session

SQL File 1\* ×

1 • select upper('important');

2

Result Grid | Filter Rows: Export: Wrap Cell Content: Limit to 1000 rows

upper('important')

IMPORTANT

Result 58 ×

Action Output

#	Time	Action	Message	Duration / Fetch
107	18:22:33	select lower(DATABASE) LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
108	18:24:11	select upper('important') LIMIT 0, 1000	1 row(s) returned	0.047 sec / 0.000 sec

Read Only

Object Info Session

Use string function (concat). ✓

The screenshot shows the MySQL Workbench interface. In the SQL Editor tab, there is a single line of SQL code: `select concat('data','base','2');`. The Result Grid below shows the output of this query: `concat('data','base','2')`. The Output panel at the bottom displays two log entries:

#	Time	Action	Message	Duration / Fetch
110	18:25:10	select concat('data','base') LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
111	18:25:17	select concat('data','base','2') LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

## Project:

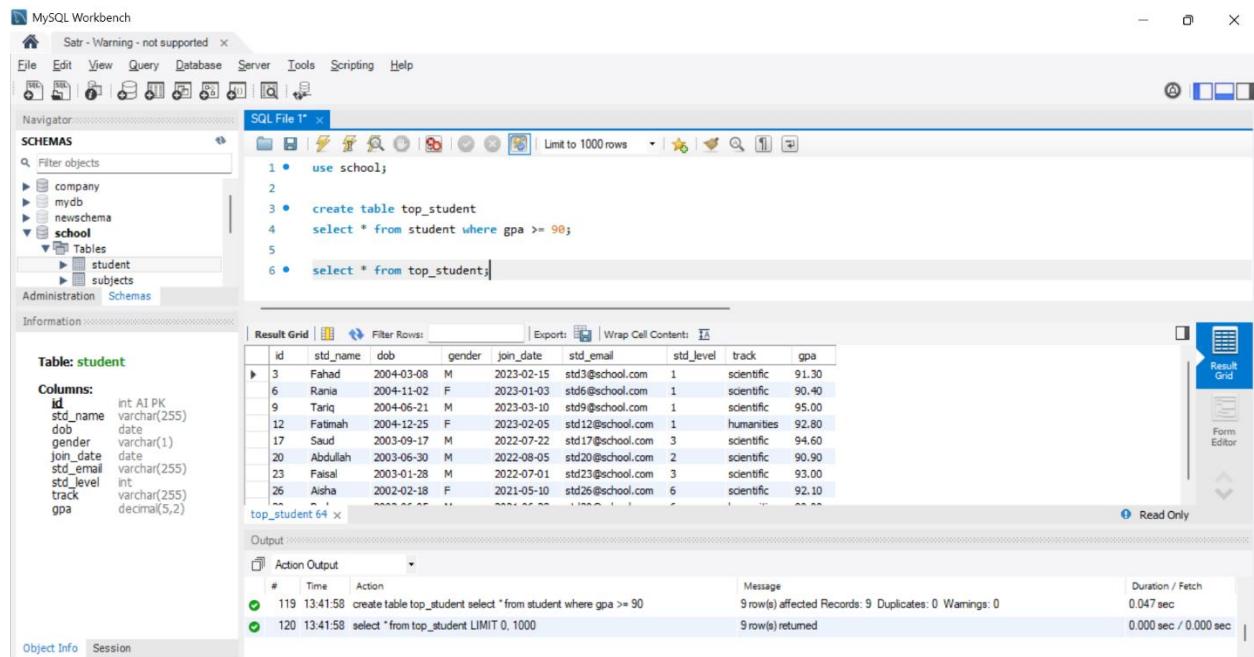
باستخدام ما تعلنته خلال هذه الدورة قم بتطبيق المتطلبات التالية، علماً أن هذا المشروع مكمل لمشروع SQL المستوى الأول.

### المتطلبات:

- إنشاء جدول للطلاب المتفوقين من جدول الطلاب، بحيث يحتوي هذا الجدول على بيانات الطلاب الذي يكون معدلهم التراكمي أعلى من ٩٠.
- إنشاء جدول للطلاب الغير ممتازين من جدول الطلاب، بحيث يحتوي هذا الجدول على بيانات الطلاب الذي يكون معدلهم التراكمي أقل من ٦٠.
- عرض أسماء الطلاب التي تبدأ بحرف A.
- عرض أسماء الطلاب التي تحتوي أسمائهم على أربع خانات.
- تطبيق Aggregate functions (AVG, MAX, MIN) على المعدل التراكمي للطالب مع إضافة تسمية واضحة للنتائج.
- حصر وعرض أسماء الطلاب المتفوقين في المستوى السادس الحاصلين على معدل تراكمي يساوي ١٠٠.
- عرض الطلاب اللذين في المستوى الأول وأعمارهم بين ١٥ و ١٦ سنة.
- عرض عدد الطلاب الموجودين بالمستوى ٢.
- استعراض مسارات الطلاب في المدرسة بدون تكرار.

- عرض أسماء المواد ويتم عرض الكلمات بالأحرف الكبيرة.
  - عرض المتوسط الحسابي للمعدل التراكمي وقرب الرقم لأقرب أصغر عدد (باستخدام numeric functions).
  - تبديل جميع الصفوف من جدول الطالب التي تحتوي على الجنس F إلى Female، و M إلى Male (باستخدام string functions).
  - تحديث المعدل التراكمي للطالب الذي معدلهم التراكمي أقل من ٦٠ وزيادة معدلهم بخمس درجات.
- 

Create top student table. ✓



The screenshot shows the MySQL Workbench interface. In the SQL editor tab, the following SQL code is written:

```

use school;
create table top_student
select * from student where gpa >= 90;
select * from top_students;

```

The Result Grid shows the data for the top\_student table:

	id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
3	Fahad	2004-03-08	M	2023-02-15	std3@school.com	1	scientific	91.30	
6	Rania	2004-11-02	F	2023-01-03	std6@school.com	1	scientific	90.40	
9	Tariq	2004-06-21	M	2023-03-10	std9@school.com	1	scientific	95.00	
12	Fatimah	2004-12-25	F	2023-02-05	std12@school.com	1	humanities	92.80	
17	Saud	2003-09-17	M	2022-07-22	std17@school.com	3	scientific	94.60	
20	Abdullah	2003-06-30	M	2022-08-05	std20@school.com	2	scientific	90.90	
23	Faisal	2003-01-28	M	2022-07-01	std23@school.com	3	scientific	93.00	
26	Aisha	2002-02-18	F	2021-05-10	std26@school.com	6	scientific	92.10	

The Output pane shows the execution results:

#	Time	Action	Message	Duration / Fetch
119	13:41:58	create table top_student select * from student where gpa >= 90	9 row(s) affected Records: 9 Duplicates: 0 Warnings: 0	0.047 sec
120	13:41:58	select * from top_student LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec

Create failed student table. ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- company
- mydb
- newschema
- school**
- Tables
- student
- subjects

Administration Schemas

Information

Table: student

Columns:

id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
31	Hassan	2004-10-05	M	2023-02-01	std31@school.com	1	scientific	58.30
32	Maryam	2003-09-14	F	2022-07-10	std32@school.com	2	humanities	54.60
33	Faisal	2002-12-21	M	2021-09-09	std33@school.com	4	scientific	49.80
34	Lina	2004-03-08	F	2023-03-20	std34@school.com	1	scientific	57.20
35	Othman	2003-01-19	M	2022-06-15	std35@school.com	3	humanities	51.00

failed\_student 65 ×

Output

Action Output

#	Time	Action	Message	Duration / Fetch
122	13:46:11	create table failed_student select * from student where gpa < 60	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.078 sec
123	13:46:11	select * from failed_student LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Select students start with 'A' in their name. ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- company
- mydb
- newschema
- school**
- Tables
- student
- subjects

Administration Schemas

Information

Table: student

Columns:

id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
1	Alli	2002-10-29	M	2022-05-25	stdAlli@school.com	3	scientific	79.20
8	Amani	2003-02-03	F	2022-09-19	std8@school.com	2	humanities	77.80
15	Abdulrahman	2004-05-16	M	2023-01-14	std15@school.com	1	humanities	80.30
20	Abdullah	2003-06-30	M	2022-08-05	std20@school.com	2	scientific	90.90
26	Aisha	2002-02-18	F	2021-05-10	std26@school.com	6	scientific	92.10
...	...	...	...	...	...	...	...	...

student 69 ×

Output

Action Output

#	Time	Action	Message	Duration / Fetch
130	13:49:35	use school	0 row(s) affected	0.000 sec
131	13:49:35	select * from student where std_name like 'A%' LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec

Object Info Session

Select only students that have 4 letters in their name. ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

- company
- mydb
- newschema
- school**
- Tables
  - student
  - subjects

Administration Schemas

Information

Table: student

Columns:

id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
2	Sara	2003-01-12	F	2022-06-10	std2@school.com	2	humanities	88.50
14	Mona	2003-03-22	F	2022-09-10	std14@school.com	2	scientific	85.90
16	Reem	2002-11-11	F	2021-09-04	std16@school.com	4	humanities	89.00
17	Saud	2003-09-17	M	2022-07-22	std17@school.com	3	scientific	94.60
19	Huda	2002-05-07	F	2021-06-11	std19@school.com	5	humanities	83.20
24	Nada	2002-12-02	F	2021-08-09	std24@school.com	4	scientific	85.00
27	Omar	2003-08-27	M	2022-09-06	std27@school.com	2	scientific	74.90
28	Noor	2004-01-04	F	2023-01-28	std28@school.com	1	Humanities	88.30
...	...	...	...	...	...	...	...	...
student 70	x							

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

Output

Action Output

#	Time	Action	Message	Duration / Fetch
132	13:52:11	use school	0 row(s) affected	0.000 sec
133	13:52:11	select * from student where std_name like '___' LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Apply AVG, MAX, MIN (Aggregate functions) to the student's GPA and add a clear label to the result. ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

- company
- mydb
- newschema
- school**
- Tables
  - student
  - subjects

Administration Schemas

Information

Table: student

Columns:

id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
2	Sara	2003-01-12	F	2022-06-10	std2@school.com	2	humanities	88.50
14	Mona	2003-03-22	F	2022-09-10	std14@school.com	2	scientific	85.90
16	Reem	2002-11-11	F	2021-09-04	std16@school.com	4	humanities	89.00
17	Saud	2003-09-17	M	2022-07-22	std17@school.com	3	scientific	94.60
19	Huda	2002-05-07	F	2021-06-11	std19@school.com	5	humanities	83.20
24	Nada	2002-12-02	F	2021-08-09	std24@school.com	4	scientific	85.00
27	Omar	2003-08-27	M	2022-09-06	std27@school.com	2	scientific	74.90
28	Noor	2004-01-04	F	2023-01-28	std28@school.com	1	Humanities	88.30
...	...	...	...	...	...	...	...	...
student 70	x							

SQL File 1\* ×

```

1 • use school;
2
3 • select avg(gpa) as average_grade, max(gpa) as max_grade, min(gpa) as min_grade from student;
4
5 -- use avg, max, min

```

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

Result 73 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
144	13:59:38	use school	0 row(s) affected	0.000 sec
145	13:59:38	select avg(gpa) as average_grade, max(gpa) as max_grade, min(gpa) as min_gra... 1 row(s) returned	1 row(s) returned	0.016 sec / 0.000 sec

Object Info Session

List and display the names of outstanding students in the sixth level who have a cumulative average equal to 100. ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

- company
- mydb
- newschema
- school**
- Tables
- student
- subjects

Administration Schemas

Information

Table: student

Columns:

id	int AI PK
std_name	varchar(255)
dob	date
gender	varchar(1)
join_date	date
std_email	varchar(255)
std_level	int
track	varchar(255)
gpa	decimal(5,2)

SQL File 1\* ×

```
1 • use school;
2
3 • select * |
4   from student
5   where gpa = 100 and std_level = 6;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
36	Areej	2002-08-25	F	2021-09-01	std36@school.com	6	scientific	100.00
38	Noorin	2004-02-28	F	2023-02-10	std38@school.com	6	humanities	100.00

student 77 ×

Output

Action Output

#	Time	Action	Message	Duration / Fetch
160	14:11:26	use school	0 row(s) affected	0.000 sec
161	14:11:26	select * from student where gpa = 100 and std_level = 6 LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Show students who are in the first level and are between 15 and 16 years old. ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

- company
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- subjects

Administration Schemas

Information

Table: student

Columns:

id	int AI PK
std_name	varchar(255)
dob	date
gender	varchar(1)
join_date	date
std_email	varchar(255)
std_level	int
track	varchar(255)
gpa	decimal(5,2)

SQL File 1\* ×

```
1 • use school;
2
3 • select *
4   from student
5   where dob >= '2009-06-11' and std_level = 1;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
39	Hadi	2009-11-12	M	2024-09-01	std39@school.com	1	scientific	83.50
40	Lujain	2010-02-05	F	2024-09-01	std40@school.com	1	humanities	91.00
41	Sultan	2009-07-24	M	2024-09-01	std41@school.com	1	scientific	77.80
42	Razan	2010-04-30	F	2024-09-01	std42@school.com	1	scientific	88.20
43	Yara	2009-09-18	F	2024-09-01	std43@school.com	1	humanities	79.40
44	Fahd	2010-01-11	M	2024-09-01	std44@school.com	1	scientific	85.70

student 81 ×

Output

Action Output

#	Time	Action	Message	Duration / Fetch
170	10:12:44	use school	0 row(s) affected	0.000 sec
171	10:12:44	select * from student where dob >= '2009-06-11' and std_level = 1 LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Display the number of students in Level 2. ✓

MySQL Workbench

Schemas: company, mydb, newschema, school (Tables: student, subjects)

SQL File 1\*:

```

1 • use school;
2
3 • select *
4   from student
5   where std_level = 2;
    
```

Result Grid:

	id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
2	Sara	2003-01-12	F	2022-06-10	std2@school.com	2	humanities	88.50	
5	Hassan	2003-05-14	M	2022-08-22	std5@school.com	2	humanities	73.60	
8	Amani	2003-02-03	F	2022-09-19	std8@school.com	2	humanities	77.80	
14	Mona	2003-03-22	F	2022-09-10	std14@school.com	2	scientific	85.90	
20	Abdullah	2003-06-30	M	2022-08-05	std20@school.com	2	scientific	90.90	
27	Omar	2003-08-27	M	2022-09-06	std27@school.com	2	scientific	74.90	
29	Latifah	2003-11-13	F	2022-08-02	std29@school.com	2	scientific	81.60	
32	Maryam	2003-09-14	F	2022-07-10	std32@school.com	2	humanities	54.60	

Output:

#	Time	Action	Message	Duration / Fetch
172	10:13:29	use school	0 row(s) affected	0.000 sec
173	10:13:29	select * from student where std_level = 2 LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec

Review students' paths in school without repetition. ✓

MySQL Workbench

Schemas: company, mydb, newschema, school (Tables: student, subjects)

SQL File 1\*:

```

1 • use school;
2
3 • select distinct track
4   from student;
    
```

Result Grid:

track
scientific
humanities

Output:

#	Time	Action	Message	Duration / Fetch
174	10:14:22	use school	0 row(s) affected	0.000 sec
175	10:14:22	select distinct track from student LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec

Subjects names are displayed and words are displayed in capital letters. ✓

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

- company
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Administration Schemas

Information

Table: student

Columns:

- id** int AI PK
- std\_name varchar(255)
- dob date
- gender varchar(1)
- join\_date date
- std\_email varchar(255)
- std\_level int
- track varchar(255)
- gpa decimal(5,2)

Result Grid

	crs_name	upper(crs_name)
1	Math	MATH
2	Physics	PHYSICS
3	Chemistry	CHEMISTRY
4	Biology	BIOLOGY
5	History	HISTORY
6	English	ENGLISH

Result 87 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
182	10:16:53	use school	0 row(s) affected	0.000 sec
183	10:16:53	select *, upper(crs_name) from subjects LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Display the arithmetic mean of the GPA and round the number to the smallest number (using numeric functions). ✓

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

- company
- mydb
- newschema
- school**
- Tables
  - student
  - subjects

Administration Schemas

Information

Table: student

Columns:

- id** int AI PK
- std\_name varchar(255)
- dob date
- gender varchar(1)
- join\_date date
- std\_email varchar(255)
- std\_level int
- track varchar(255)
- gpa decimal(5,2)

Result Grid

	floor(avg(gpa))
	82

Result 95 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
200	10:21:11	use school	0 row(s) affected	0.000 sec
201	10:21:11	select floor(avg(gpa)) from student LIMIT 0, 1000	1 row(s) returned	0.015 sec / 0.000 sec

Object Info Session

Switch all rows from the Students table that have gender F to Female, and M to Male (using string functions). ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

- company
- mydb
- newschema
- school**
- Tables
  - student
  - subjects

Administration Schemas

Information

Table: student

Columns:

id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
1	Ali	2002-10-29	M	2022-05-25	stdAli@school.com	3	scientific	79.20
2	Sara	2003-01-12	Female	2022-06-10	std2@school.com	2	humanities	88.50
3	Fahad	2004-03-08	M	2023-02-15	std3@school.com	1	scientific	91.30
4	Noura	2002-09-19	Female	2021-09-01	std4@school.com	4	scientific	82.00
5	Hassan	2003-05-14	M	2022-08-22	std5@school.com	2	humanities	73.60

student 97 ×

Output

Action Output

#	Time	Action	Message	Duration / Fetch
213	10:40:19	update student set gender = replace(gender, 'F', 'Female') where gender = 'F'	23 row(s) affected Rows matched: 23 Changed: 23 Warnings: 0	0.046 sec
214	10:40:19	select * from student LIMIT 0, 1000	44 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

- company
- mydb
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- school**
- Tables
  - student
  - subjects

Administration Schemas

Information

Table: student

Columns:

id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
1	Ali	2002-10-29	Male	2022-05-25	stdAli@school.com	3	scientific	79.20
2	Sara	2003-01-12	Female	2022-06-10	std2@school.com	2	humanities	88.50
3	Fahad	2004-03-08	Male	2023-02-15	std3@school.com	1	scientific	91.30
4	Noura	2002-09-19	Female	2021-09-01	std4@school.com	4	scientific	82.00
5	Hassan	2003-05-14	Male	2022-08-22	std5@school.com	2	humanities	73.60

student 98 ×

Output

Action Output

#	Time	Action	Message	Duration / Fetch
216	10:40:55	update student set gender = replace(gender, 'M', 'Male') where gender = 'M'	21 row(s) affected Rows matched: 21 Changed: 21 Warnings: 0	0.047 sec
217	10:40:55	select * from student LIMIT 0, 1000	44 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Update the cumulative GPA for students whose cumulative GPA is less than 60 and increase their GPA by five grades. ✓

MySQL Workbench

Satr - Warning - not supported ×

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

company mydb newschema school

Tables student subjects

Administration Schemas

Information

SQL File 1\* ×

1 • use school;

2

3 • update student

4 set gpa = gpa + 5

5 where gpa < 60;

6 -- increase low students grades by 5

7 • select \* from student where gpa < 66;

8 -- show the results

Table: student

Columns:

id	std_name	dob	gender	join_date	std_email	std_level	track	gpa
31	Hassan	2004-10-05	Male	2023-02-01	std31@school.com	1	scientific	63.30
32	Maryam	2003-09-14	Female	2022-07-10	std32@school.com	2	humanities	59.60
33	Faisal	2002-12-21	Male	2021-09-09	std33@school.com	4	scientific	54.80
34	Lina	2004-03-08	Female	2023-03-20	std34@school.com	1	scientific	62.20
35	Othman	2003-01-19	Male	2022-06-15	std35@school.com	3	humanities	56.00

student 99 ×

Result Grid | Filter Rows: | Edit: | Export/Imports: | Wrap Cell Content: | Result Grid | Apply

Output

Action Output

#	Time	Action	Message	Duration / Fetch
219	10:46:25	update student set gpa = gpa + 5 where gpa < 60	5 row(s) affected Rows matched: 5 Changed: 5 Warnings: 0	0.047 sec
220	10:46:25	select * from student where gpa < 66 LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Project done. ✓