SQL 2 PROJECT

Samirah Abed Alhusayni

مشروع ٢

باستخدام ما تعلمته خلال هذهِ الدورة قم بتطبيق المتطلبات التالية، حيث أن هذا المشروع مكمّل 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.

```
34
35    -- Create a table of excellent students from students table where the GPA > 90
36
37    CREATE TABLE ExStudent
38    SELECT * FROM Students
39    WHERE Student_GPA > 90;
40    SELECT * FROM ExStudent;
41
```

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

Student_id	Student_name	Sttudent_birthDate	Student_gender	JoiningDate	Student_email	AcademicLevel	Student_track	Student_GPA
1111	Ali	1997-09-04	M	2020-05-09	Ali@mail.com	4	Scinces	97
1121	Sarah	1996-09-17	F	2020-05-09	Sarah@mail.com	5	Scinces	100
1211	Amal	1995-09-22	F	2020-05-09	Amal@mail.com	6	Scinces	100
2111	Ayman	1997-07-02	M	2020-05-09	Ay@mail.com	4	Humanities	97
2222	saqar	1997-09-23	M	2020-05-09	Sq@mail.com	4	Scinces	97
2212	hamad	1997-11-17	M	2020-05-09	hamad@mail.com	3	Scinces	97
1222	Samirah	1997-09-23	F	2020-05-09	samirah@mail.com	5	Scinces	97
3333	Sami	1997-09-01	M	2020-05-09	Sami@mail.com	4	Scinces	97
3313	hmood	1997-08-02	M	2020-05-09	hamood@mail.com	3	Scinces	97
1333	Ola	1997-09-23	F	2020-05-09	Ola@mail.com	5	Humanities	97

Student 4

- إنشاء جدول للطلاب الغير مجتازين من جدول الطلاب، بحيث يحتوي هذا الجدول على بيانات الطلاب الذي يكون معدلهم التراكمي أقل من ٦٠.

```
142
143   /*Create a table for students who have not
144   passed from the students 'table, so that this table
145   contains data for students whose GPA is less than 60 */
146   CREATE TABLE NPStudents
147   SELECT * FROM Students
148   WHERE Student_GPA < 60;
149   SELECT * FROM NPStudents;
```

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

Student_id	Student_name	Sttudent_birthDate	Student_gender	JoiningDate	Student_email	AcademicLevel	Student_track	Student_GPA

لانه لا يوجد في قاعدة البيانات الحالية طلاب أقل من 60 درجة

- عرض أسماء الطلاب التي تبدأ بحرف A.

```
-- Show student names that start with the letter A.
SELECT Student_name From Students
WHERE Student_name LIKE 'A%';
```

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

Student_name
Ali
Amal
Ayman
Abdullah
Abed
Abdurahman
Anas

- عرض أسماء الطلاب التي تحتوي أسمائهم على أربع خانات.

```
-- Show the names of students whose names contain four Characters
SELECT Student_name From Students
WHERE Student_name LIKE '____';
```

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

Student_name
Amal
Huda
Sami
Abed
Hind
Anas
Taif

- تطبيق (AVG, MAX, MIN) Aggregate functions على المعدل التراكمي للطالب مع إضافة تسمية واضحة للناتج.

```
-- Aggregate functions (AVG, MAX, MIN) on GPA

SELECT  AVG(Student_GPA) 'GPA Average',
 MAX(Student_GPA) 'MAximum GPA',
 MIN(Student_GPA) 'Minimum GPA'
FROM Students;
```

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

	GPA Average	MAximum GPA	Minimum GPA
▶	93.2667	100	80

- حصر وعرض أسماء الطلاب المتفوقين في المستوى السادس الحاصلين على معدل تراكمي يساوي 100.

```
/* List and display the names of the students who excelled in
 the sixth level, who obtained an average grade point average of 100 */
 SELECT Student_name FROM ExStudent
 WHERE AcademicLevel =6 AND Student_GPA = 100;
```

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

	Student_name
▶	Amal

- عرض الطلاب اللذين في المستوى الأول وأعمارهم بين ١٥ و ١٦ سنة.

```
-- Show students who are in the first level and between the ages of 15 and  16 years
SELECT * from students
WHERE AcademicLevel = 1 AND Sttudent_birthDate BETWEEN '2005-01-01' AND '2006-01-01';
```

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

	Student_id	Student_name	Sttudent_birthDate	Student_gender	JoiningDate	Student_email	AcademicLevel	Student_track	Student_GPA
▶	8366	Saja	2005-09-04	M	2020-05-09	Ali@mail.com	1	Scinces	97
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

- عرض عدد الطلاب الموجودين بالمستوى ٢.

```
-- Display the number of students present in level 2

SELECT COUNT(Student_id)
FROM Students WHERE AcademicLevel =2;
```

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

COUNT(Student_id)
3

- استعراض مسارات الطلاب في المدرسة بدون تكرار.

```
-- Show students' tracks in the school without repetition
SELECT DISTINCT Student_track
FROM Students;
```

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

Student_track
Scinces
Humanities

- عرض أسماء المواد ويتم عرض الكلمات بالأحرف الكبيرة.

```
-- Subjects names are displayed and words are displayed in capital letters.
SELECT Upper(Subject_name) FROM courses;
```

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

Upper(Subject_name)
ENGLISH
MATH
PHYSICS
CHEMISTRY
ARABIC
HISTORY

- عرض المتوسط الحسابي للمعدل التراكمي وقرب الرقم لأقرب أصغر عدد) باستخدام(numeric functions

```
-- Display the arithmetic average and round the number to the nearest smaller number (using numerical functions).
Select floor(avg(Student_GPA )) from students;
```

floor(avg(Student_GPA))
93

.

- تبديل جميع الصفوف من جدول الطلاب التي تحتوي على الجنس F إلىFemale ، و M إلى) Male باستخدام string functions).

```
-- Replace F to Female and M to MALE
SET SQL_SAFE_UPDATES = 0;
UPDATE Students
SET Student_gender = 'FEMALE' WHERE Student_gender ='F';
SELECT * FROM Students;
```

Student_id	Student_name	Sttudent_birthDate	Student_gender	JoiningDate	Student_email	AcademicLevel	Student_track	Student_GPA
1111	Ali	1997-09-04	M	2020-05-09	Ali@mail.com	4	Scinces	97
1112	Mohammed	1997-08-16	M	2020-05-09	Mohammad@mail.com	4	Scinces	85
1121	Sarah	1996-09-17	FEMALE	2020-05-09	Sarah@mail.com	5	Scinces	100
1211	Amal	1995-09-22	FEMALE	2020-05-09	Amal@mail.com	6	Scinces	100
2111	Ayman	1997-07-02	M	2020-05-09	Ay@mail.com	4	Humanities	97
2222	saqar	1997-09-23	M	2020-05-09	Sq@mail.com	4	Scinces	97
2221	Abdullah	1996-01-05	M	2020-05-09	abd@mail.com	5	Humanities	89
2212	hamad	1997-11-17	M	2020-05-09	hamad@mail.com	3	Scinces	97

```
SELECT * FROM Students;

UPDATE Students
SET Student_gender = 'MALE' WHERE Student_gender ='M';
SELECT * FROM Students;
```

Student_id	Student_name	Sttudent_birthDate	Student_gender	JoiningDate	Student_email	AcademicLevel	Student_track	Student_GPA
1111	Ali	1997-09-04	MALE	2020-05-09	Ali@mail.com	4	Scinces	97
1112	Mohammed	1997-08-16	MALE	2020-05-09	Mohammad@mail.com	4	Scinces	85
1121	Sarah	1996-09-17	FEMALE	2020-05-09	Sarah@mail.com	5	Scinces	100
1211	Amal	1995-09-22	FEMALE	2020-05-09	Amal@mail.com	6	Scinces	100
2111	Ayman	1997-07-02	MALE	2020-05-09	Ay@mail.com	4	Humanities	97
2222	saqar	1997-09-23	MALE	2020-05-09	Sq@mail.com	4	Scinces	97
2221	Abdullah	1996-01-05	MALE	2020-05-09	abd@mail.com	5	Humanities	89
2212	hamad	1997-11-17	MALE	2020-05-09	hamad@mail.com	3	Scinces	97

- تحديث المعدل التراكمي للطلاب الذي معدلهم التراكمي أقل من ٦٠ وزيادة معدلهم بخمس درجات.

```
-- Update the GPA for students whose grade point average < 60 into +5.
UPDATE Students
SET Student_GPA = Student_GPA +5
WHERE Student_GPA < 60;
SELECT * FROM students;
```

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

Student_id	Student_name	Sttudent_birthDate	Student_gender	JoiningDate	Student_email	AcademicLevel	Student_track	Student_GPA
1111	Ali	1997-09-04	MALE	2020-05-09	Ali@mail.com	4	Scinces	97
1112	Mohammed	1997-08-16	MALE	2020-05-09	Mohammad@mail.com	4	Scinces	85
1121	Sarah	1996-09-17	FEMALE	2020-05-09	Sarah@mail.com	5	Scinces	100
1211	Amal	1995-09-22	FEMALE	2020-05-09	Amal@mail.com	6	Scinces	100
2111	Ayman	1997-07-02	MALE	2020-05-09	Ay@mail.com	4	Humanities	97
2222	saqar	1997-09-23	MALE	2020-05-09	Sq@mail.com	4	Scinces	97
2221	Abdullah	1996-01-05	MALE	2020-05-09	abd@mail.com	5	Humanities	89
2212	hamad	1997-11-17	MALE	2020-05-09	hamad@mail.com	3	Scinces	97

students 1

- قم بأخذ لقطة شاشة لكل مما سبق مع النتائج.

Source Code

```
-- SQL 2

-
- Create a table of excellent students from students table where the GP
A > 90

CREATE TABLE ExStudent
SELECT * FROM Students
WHERE Student_GPA > 90;

/*Create a table for students who have not
passed from the students ’table, so that this table
contains data for students whose GPA is less than 60 */
CREATE TABLE NPStudents
SELECT * FROM Students
WHERE Student_GPA < 60;


-- Show student names that start with the letter A.
SELECT Student_name From Students
WHERE Student_name LIKE 'A%';

-- Show the names of students whose names contain four Characters
SELECT Student_name From Students
WHERE Student_name LIKE '____';


-- Aggregate functions (AVG, MAX, MIN) on GPA

SELECT AVG (Student_GPA) 'GPA Average',
max (Student_GPA) 'MAximum GPA',
min (Student_GPA) 'Minimum GPA'
FROM Students;


/* List and display the names of the students who excelled in
 the sixth level, who obtained an average grade point average of 100 */
 SELECT Student_name FROM ExStudent
 WHERE AcademicLevel =6 AND Student_GPA = 100;

 -
- Show students who are in the first level and between the ages of 15 a
nd  16 years
SELECT * from students
```

```sql
WHERE  AcademicLevel =1 AND  Sttudent_birthDate BETWEEN '2005-01-
01' AND '2005-01-01';

-- Display the number of students present in level 2

SELECT COUNT(Student_id)
FROM Students WHERE AcademicLevel =2;

-- Show students' tracks in the school without repetition
SELECT DISTTNCT Student_track
FROM Students;

-
- Subjects names are displayed and words are displayed in capital lette
rs.
SELECT Upper(Subject_name) FROM courses;


-
- Display the arithmetic average and round the number to the nearest sm
aller number (using numerical functions).
Select floor(avg(Student_GPA )) from students;



 -- Replace F to Female and M to MALE
 SET SQL_SAFE_UPDATES = 0;
UPDATE Students
SET Student_gender = 'FEMALE' WHERE Student_gender ='F';
SELECT * FROM Students;

UPDATE Students
SET Student_gender = 'MALE' WHERE Student_gender ='M';
SELECT * FROM Students;

-- Update the GPA for student's GPA into GPA+5 if GPA < 60
UPDATE Students
SET Student_GPA = Student_GPA + 5
WHERE Student_GPA < 60;
```