

"""

**@author : Syed Mahvish**  
**CWID : 10456845**

**Github branch for hw11 :**  
**[https://github.com/syedmahvish/Student\\_Repository/tree/HW11](https://github.com/syedmahvish/Student_Repository/tree/HW11)**  
"""

## Homework 11

**What is the name of the student with CWID='10115'**

select Name from students  
where CWID = '10115'

The screenshot displays a database console window for a file named 'HW11\_DB\_File.sqlite'. The left sidebar shows a tree view of the database structure, including a 'main' schema with tables like 'grades', 'instructor', 'majors', 'sqlite\_master', and 'students'. The main area shows a SQL query: `select Name from students where CWID = '10115'`. Below the query, the 'Services' panel shows the execution results for the 'main.students' table, displaying a single row with the name 'Bezos, J'. The bottom status bar indicates 'HW11\_DB\_File.sqlite: Synchronization successful (223 ms) (3 minutes ago)'.

Name
1 Bezos, J

**What is the total number of students by major?**

select Major, count(Name) as count from students  
group by Major

The screenshot shows a database console interface for a SQLite database named 'HW11\_DB\_File.sqlite'. The left sidebar displays the database structure, including schemas, tables (main, grades, instructor, majors, sqlite\_master, students), and collations. The main console area shows a SQL query: `select Major, count(Name) as count from students group by Major`. The query is executed, and the results are displayed in a table with 2 rows. The table has columns 'Major' and 'count'. The first row shows 'CS' with a count of 1, and the second row shows 'SFEN' with a count of 3. The console also shows a list of services, including 'HW11\_DB\_File.sqlite', 'default', and 'console'.

Major	count
1 CS	1
2 SFEN	3

**What is the most frequent grade for SSW 810 across all students?**

select Grade from grades  
where Course = 'SSW 810'  
order by Grade limit 1

The screenshot shows a database console window with the following components:

- Database Explorer:** Displays a tree view of the database structure. The 'main' schema is expanded, showing tables: grades, instructor, majors, sqlite\_master, and students. There are also 3 collations.
- SQL Editor:** Contains the query: 

```
1 select Grade from grades
2 where Course = 'SSW 810'
3 order by Grade limit 1
4
```
- Services:** Shows the execution history. The 'console' service is selected, showing a successful execution of the query in 44 ms.
- Output:** Displays the result of the query. It shows a single row with the grade 'A'.

Grade
A

**Display the name and cwid of each student along with the total number of courses taken by the student.**

select s.Name, s.CWID, count(g.Course) from

grades g join students s on g.StudentCWID = s.CWID

group by s.Name, s.CWID

The screenshot shows a database application interface. On the left, a tree view displays the database structure: HW11\_DB\_File.sqlite, schemas (main), and tables (grades, instructor, majors, sqlite\_master, students). The main area shows a SQL query: `select s.Name, s.CWID, count(g.Course) from grades g join students s on g.StudentCWID = s.CWID group by s.Name, s.CWID`. The bottom panel shows the execution results in a table with 4 rows.

	Name	CWID	"count(g.Course)"
1	Bezos, J	10115	2
2	Gates, B	11714	3
3	Jobs, S	10103	2
4	Musk, E	10183	2

Display each student's name, CWID, course, grade, and the instructor's name for all students and grades. The result should be sorted by the student's name.

```
select s.Name, s.CWID, g.Course, g.Grade, i.Name
```

```
from grades g join instructor i on g.InstructorCWID = i.CWID
```

```
join students s on g.StudentCWID = s.CWID
```

```
order by s.Name
```

The screenshot shows a database console interface with a SQL query and its results. The query is as follows:

```
select s.Name, s.CWID, g.Course, g.Grade, i.Name
from grades g join instructor i on g.InstructorCWID = i.CWID
join students s on g.StudentCWID = s.CWID
order by s.Name
```

The results are displayed in a table with 9 rows and 5 columns: s.Name, CWID, Course, Grade, and i.Name.

s.Name	CWID	Course	Grade	i.Name
1 Bezos, J	10115	SSW 810	A	Rowland, J
2 Bezos, J	10115	CS 546	F	Hawking, S
3 Gates, B	11714	SSW 810	B-	Rowland, J
4 Gates, B	11714	CS 546	A	Cohen, R
5 Gates, B	11714	CS 570	A-	Hawking, S
6 Jobs, S	10103	SSW 810	A-	Rowland, J
7 Jobs, S	10103	CS 501	B	Hawking, S
8 Musk, E	10183	SSW 555	A	Rowland, J
9 Musk, E	10183	SSW 810	A	Rowland, J