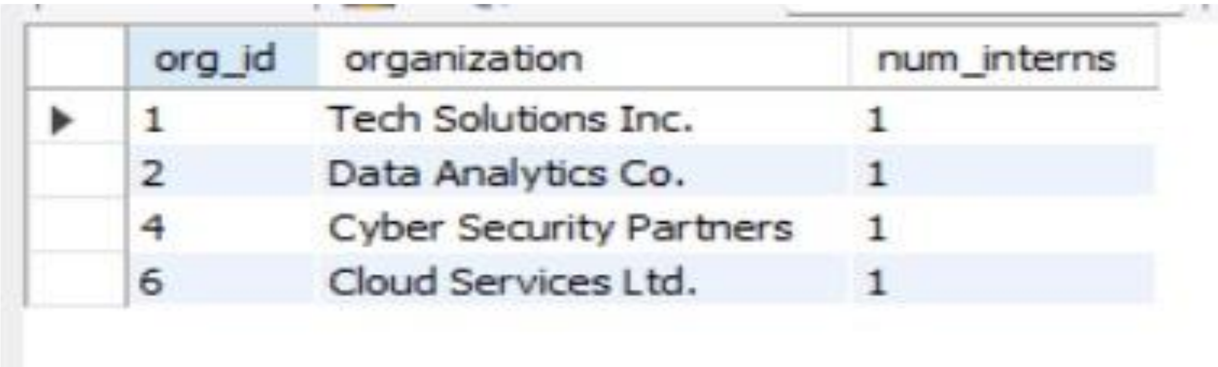
DataStax

Query 1: Which organizations have the highest number of interns this semester?

Purpose: Identify popular organizations for future partnerships

Query 1: Which organizations have the highest number of interns in our Summer 2023 “semester”?



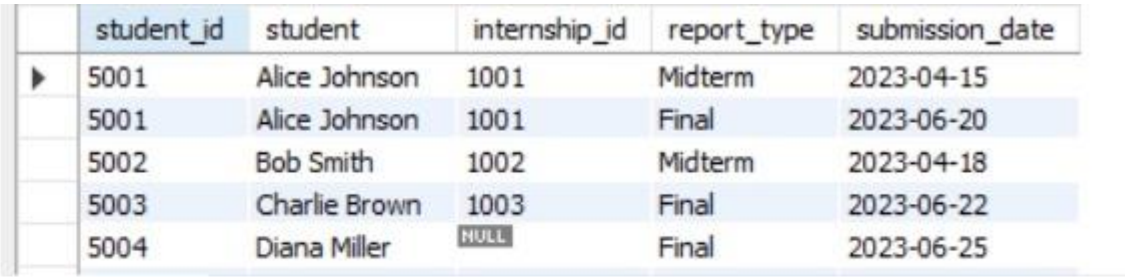
	org_id	organization	num_interns
▶	1	Tech Solutions Inc.	1
	2	Data Analytics Co.	1
	4	Cyber Security Partners	1
	6	Cloud Services Ltd.	1

```
SELECT

o.org_id, o.name AS organization, COUNT(s.student_id) AS num_interns

FROM Organization o JOIN Internship i

ON o.org_id = i.org_id

JOIN Students s

ON s.internship_id = i.internship_id

 -- internships that overlap the semester window:

 WHERE i.start_date <= @sem_end

AND i.end_date >= @sem_start
```

```
 GROUP BY o.org_id, o.name

ORDER BY num_interns DESC ;
```

Query 2: List all students who have submitted their internship reports.

Purpose: Track complete submissions and send reminders.

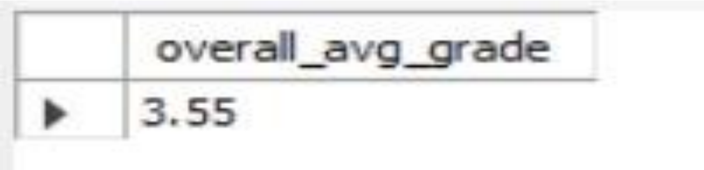


student_id	student	internship_id	report_type	submission_date
5001	Alice Johnson	1001	Midterm	2023-04-15
5001	Alice Johnson	1001	Final	2023-06-20
5002	Bob Smith	1002	Midterm	2023-04-18
5003	Charlie Brown	1003	Final	2023-06-22
5004	Diana Miller	NULL	Final	2023-06-25

```
USE DataStax;

SELECT DISTINCT s.student_id

, s.name AS student,

 s.internship_id,

r.type AS report_type,

 r.submission_date

 FROM Students s

 JOIN Evaluation e

 ON s.student_id = e.student_id

JOIN Report r

ON e.evaluation_id = r.evaluation_id
```

```
ORDER BY s.student_id, r.submission_date;
```

Query 3: What is the average grade for all all student ?



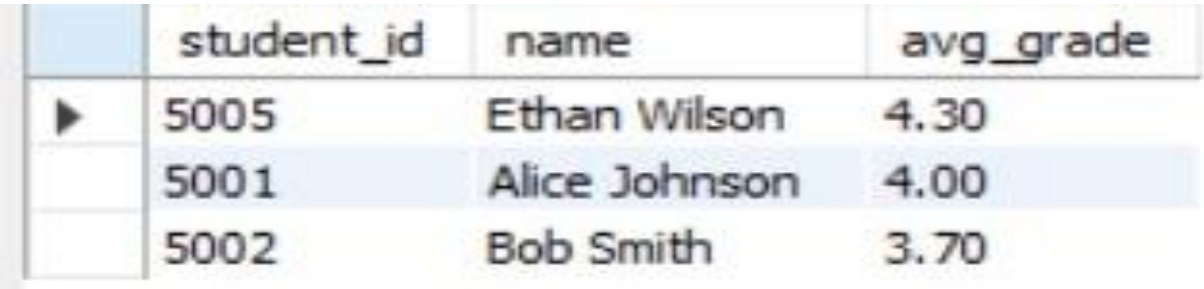
	overall_avg_grade
▶	3.55

```
SELECT
 ROUND(
 AVG(
 CASE
        WHEN e.grade = 'A+' THEN 4.3
        WHEN e.grade = 'A' THEN 4.0
        WHEN e.grade = 'A-' THEN 3.7
        WHEN e.grade = 'B+' THEN 3.3
        WHEN e.grade = 'B' THEN 3.0
        WHEN e.grade = 'C+' THEN 2.3
        WHEN e.grade = 'C' THEN 2.0
ELSE 0
 END
)
, 2) AS overall_avg_grade
FROM Evaluation e
 JOIN Report r
```

```
        ON e.evaluation_id = r.evaluation_id;
```

Query 4 :Which three students have achieved the highest grades in this semester?

Purpose: Recognize top-performing students



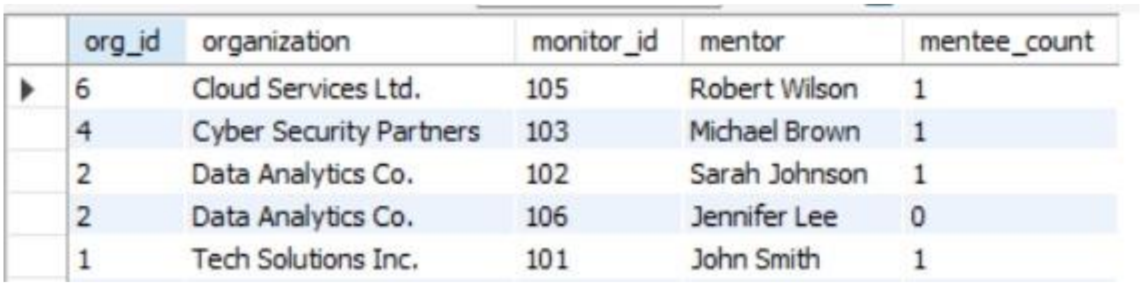
	student_id	name	avg_grade
▶	5005	Ethan Wilson	4.30
	5001	Alice Johnson	4.00
	5002	Bob Smith	3.70

```
SELECT
 s.student_id,
s.name,
ROUND(
AVG(
 CASE
 WHEN e.grade = 'A+' THEN 4.3
 WHEN e.grade = 'A' THEN 4.0
 WHEN e.grade = 'A-' THEN 3.7
 WHEN e.grade = 'B+' THEN 3.3
WHEN e.grade = 'B' THEN 3.0
 WHEN e.grade = 'C+' THEN 2.3
 WHEN e.grade = 'C' THEN 2.0
ELSE 0
 END
),
 2) AS avg_grade
 FROM Students s
 JOIN Evaluation e
 ON s.student_id = e.student_id
 JOIN Report r
ON e.evaluation_id = r.evaluation_id
 GROUP BY s.student_id, s.name
ORDER BY avg_grade DESC
LIMIT 3;
```

Query 5: How many students are currently interning at each organization, and who are their mentors?

Purpose: Monitor mentor workload and organization engagement

Query 5: How many interns per org & who their mentor is (including mentors with zero interns)



org_id	organization	monitor_id	mentor	mentee_count
6	Cloud Services Ltd.	105	Robert Wilson	1
4	Cyber Security Partners	103	Michael Brown	1
2	Data Analytics Co.	102	Sarah Johnson	1
2	Data Analytics Co.	106	Jennifer Lee	0
1	Tech Solutions Inc.	101	John Smith	1

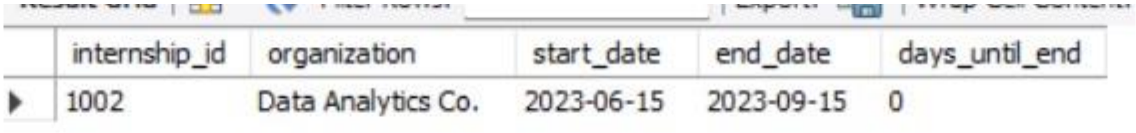
```
SELECT
 o.org_id,
 o.name          AS organization,
 m.monitor_id,
 m.name          AS mentor,
 COUNT(s.student_id) AS mentee_count
 FROM Organization o
 JOIN Internship i
          ON o.org_id = i.org_id
JOIN Monitor m
          ON i.monitor_id = m.monitor_id
LEFT JOIN Students s
          ON s.internship_id = i.internship_id
WHERE i.start_date <= @sem_end
          AND i.end_date >= @sem_start
GROUP BY o.org_id, o.name, m.monitor_id, m.name
ORDER BY o.name ;
```

Query 6: Generate a list of all internships that are scheduled to end in the next two weeks.

Purpose: Prepare for evaluations and report submissions

Query 6: Internships ending in the next two weeks from our test “today”

SELECT



	internship_id	organization	start_date	end_date	days_until_end
▶	1002	Data Analytics Co.	2023-06-15	2023-09-15	0

```
SELECT

 i.internship_id,

 o.name          AS organization,

 i.start_date,

 i.end_date,

DATEDIFF(i.end_date, @today) AS days_until_end

 FROM Internship i

 JOIN Organization o

         ON i.org_id = o.org_id

 WHERE i.end_date

         BETWEEN @today AND DATE_ADD(@today, INTERVAL 14 DAY) ORDER BY
i.end_date ;
```