

# ASSIGNMENT

Student Table				
student_id	name	dept_name	tot_cred	
1	Alice	Computer Science	120	
2	Bob	Mathematics	90	
3	Charlie	Physics	100	

Course Table				
course_id	title	dept_name	credits	
CS101	Intro to CS	Computer Science	4	
MATH101	Calculus I	Mathematics	3	
PHYS101	Physics I	Physics	4	

Takes Table				
student_id	course_id	semester	year	grade
1	CS101	Fall	2024	A
2	MATH101	Spring	2024	B
3	PHYS101	Fall	2024	A

**Instructor Table**

instructor_id	name	dept_name	salary
101	Dr. Smith	Computer Science	90000.00
102	Dr. Johnson	Mathematics	85000.00
103	Dr. Lee	Physics	87000.00

**Teaches Table**

instructor_id	course_id	semester	year
101	CS101	Fall	2024
102	MATH101	Spring	2024
103	PHYS101	Fall	2024

## Questions

**1. HAVING Clause:**

Write a query to find all departments where the average credits of courses offered is more than 3. Display the department name and the average credits.

**2. EXISTS Clause:**

Find all students who have taken all courses offered by the 'Computer Science' department.

**3. ALL Clause:**

Find the names of instructors who have a higher salary than all instructors in the 'Biology' department.

**4. Combination (HAVING and EXISTS):**

List all courses that have been taken by all students in the 'Computer Science' department. Display the course ID and title.

**5. Nested Subquery with EXISTS:**

Find all students who have taken at least one course with every instructor in their department.