-- task 4

-- 1

Select c.CourseId, avg(EnrollmentCount) as Average

from Courses c

Join (Select CourseId, count(StudentId) as EnrollmentCount

from Enrollments

group by courseId)

e on c.courseId = e.courseId

Group by c.courseId, c.CourseName;

-- 2

select s.studentId, s.StudentId, p.Amount

from student s

join payments p on s.studentId = p.StudentId

where p.Amount = (Select max(Amount)from payments);

-- 3

SELECT c.courseId, c.courseName, COUNT(e.studentId) AS enrollmentCount

FROM courses c

LEFT JOIN

enrollments e ON c.courseId = e.courseId

GROUP BY c.courseId, c.courseName

HAVING COUNT(e.studentId) = (SELECT MAX(enrollmentCount)

FROM (SELECT COUNT(studentId) AS enrollmentCount

FROM enrollments

GROUP BY courseId) AS subquery);

-- 4

SELECT t.teacherId, t.FirstName,

(SELECT SUM(p.amount)

FROM payments p

JOIN courses c ON c.courseId = c.courseId

WHERE c.teacherId = t.teacherId) AS total

FROM teacher t;

-- 5

SELECT s.studentId, s.FirstName

FROM student s

WHERE

(SELECT COUNT(\*) FROM enrollments e WHERE e.studentId = s.studentId) =

(SELECT COUNT(\*) FROM courses);

-- 6

SELECT t.teacherId, t.FirstName

FROM teacher t

WHERE t.teacherId NOT IN (SELECT c.teacherId FROM courses c);

-- 7

SELECT AVG(age) AS average\_age

FROM (

SELECT TIMESTAMPDIFF(YEAR, DOB, CURDATE()) AS age

FROM student

) AS subquery;

-- 8

SELECT \*

FROM courses

WHERE courseId NOT IN (

SELECT courseId

FROM enrollments

);

-- 9

SELECT e.studentId, e.courseId,

(SELECT SUM(p.amount)

FROM payments p

WHERE p.studentId = e.studentId) AS total

FROM enrollments e

GROUP BY e.studentId, e.courseId;

-- 10

SELECT studentId

FROM (

SELECT studentId, COUNT(\*) AS payment\_count

FROM payments

GROUP BY studentId

) AS payment\_counts

WHERE payment\_count > 1;

-- 11

SELECT s.studentId, s.FirstName,

SUM(p.amount) AS total

FROM Student s

LEFT JOIN Payments p ON s.studentId = p.studentId

GROUP BY s.studentId, s.FirstName;

-- 12

SELECT c.courseName, COUNT(e.studentId) AS student\_count

FROM Courses c

LEFT JOIN Enrollments e ON c.courseId = e.courseId

GROUP BY c.courseName;

-- 13

SELECT s.studentId, s.FirstName, AVG(p.amount) AS average

FROM Student s

LEFT JOIN Payments p ON s.studentId = p.studentId

GROUP BY s.studentId, s.FirstName;