CSCI3170 Short Assignment #1  
(Deadline: Oct 20 23:59)

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Consider the following relation schema and SQL statement:

Course(course\_id, course\_name, stream)

Enrollment(course\_id, student\_id)

SELECT student\_id

FROM Enrollment E

WHERE E.course\_id IN (

SELECT C.course\_id

FROM Course C

WHERE C.stream = A

)

GROUP BY student\_id

HAVING COUNT(\*) = (

SELECT COUNT (\*)

FROM Course C2

WHERE C2.stream = A

);

1. Suppose we have the following relation instance. What is the output of the query?

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | course\_id | course\_name | stream | | CSCI3170 | Database | A | | CSCI1234 | Information | A | | CSCI4430 | Network | B | | |  |  | | --- | --- | | course\_id | student\_id | | CSCI3170 | 1 | | CSCI1234 | 1 | | CSCI3170 | 2 | | CSCI4430 | 2 | | CSCI3170 | 3 | | CSCI4430 | 3 | | CSCI1234 | 3 | |

Solution:

|  |
| --- |
| student\_id |
| 1 |
| 3 |

1. Use ONE sentence to describe the purpose of the SQL statement.

Solution:

Find the student\_id of students who have enrolled all the stream A courses

1. Rewrite the SQL statement in Relational Algebra.

(Hint: Use division)

Solution: