SQL CODING ASSESSMENT

2) Explain joins with examples.

- Join statement is used to combine data or rows from two or more tables based on a common field between them.
- The join clause allows us to **retrieve data from two or more related tables** into a meaningful result set.
- We can join the table using a **SELECT** statement and a **join condition**. It indicates how SQL Server can use data from one table to select rows from another table.
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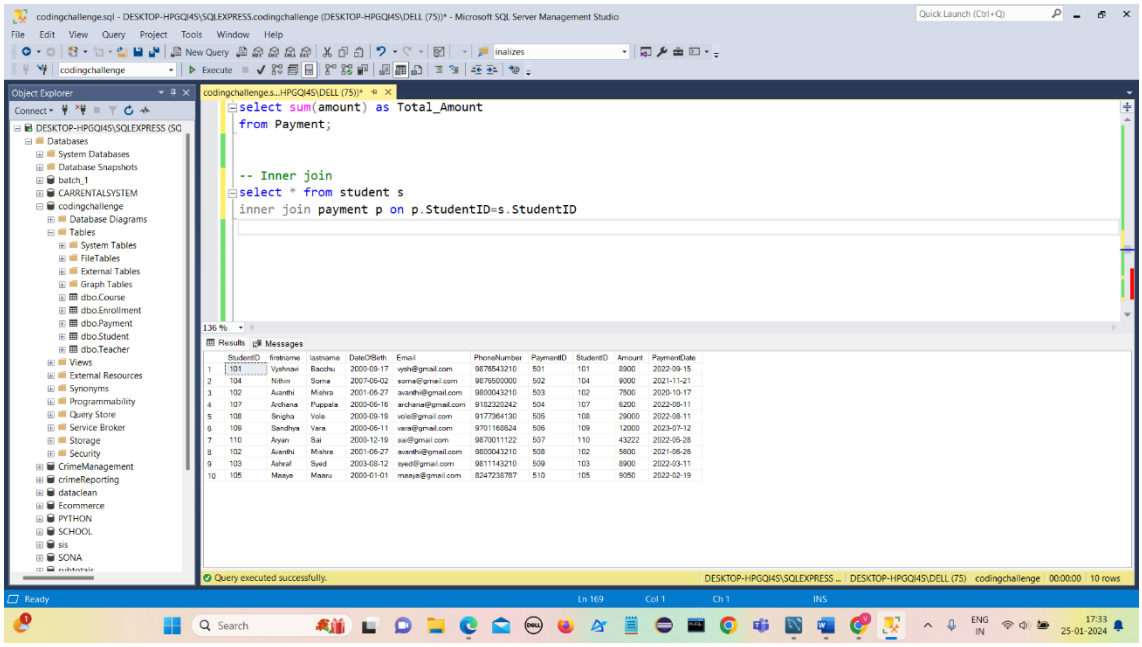
Different types of joins:

1) Inner Join:

The INNER JOIN keyword selects all rows from both the tables as long as the condition is satisfied. This keyword will create the result-set by combining all rows from both the tables where the condition satisfies i.e value of the common field will be the same.

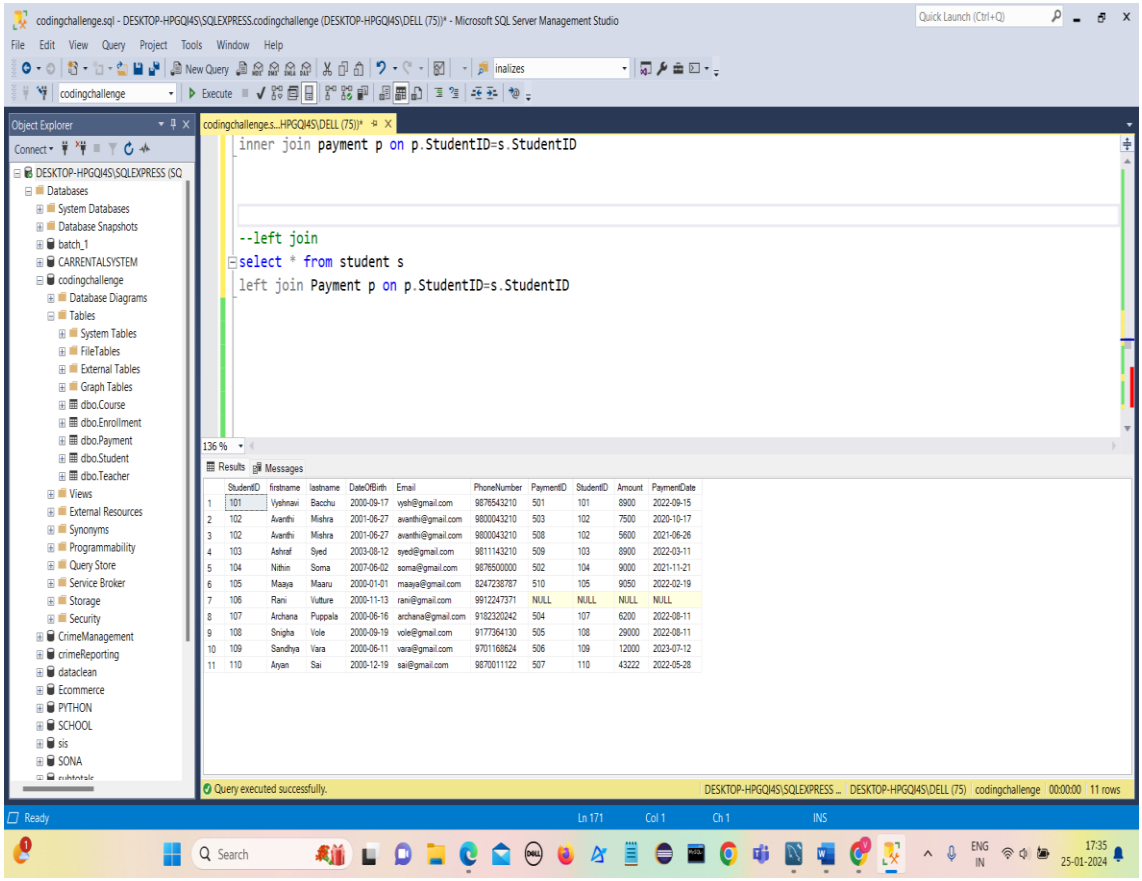


Explanation:

In this query inner join joins student and payment atble and gives recors till condition p.studentid=s.studentid is true.

2) Left Join

This join returns all the rows of the table on the left side of the join and matches rows for the table on the right side of the join. For the rows for which there is no matching row on the right side, the result-set will contain null.

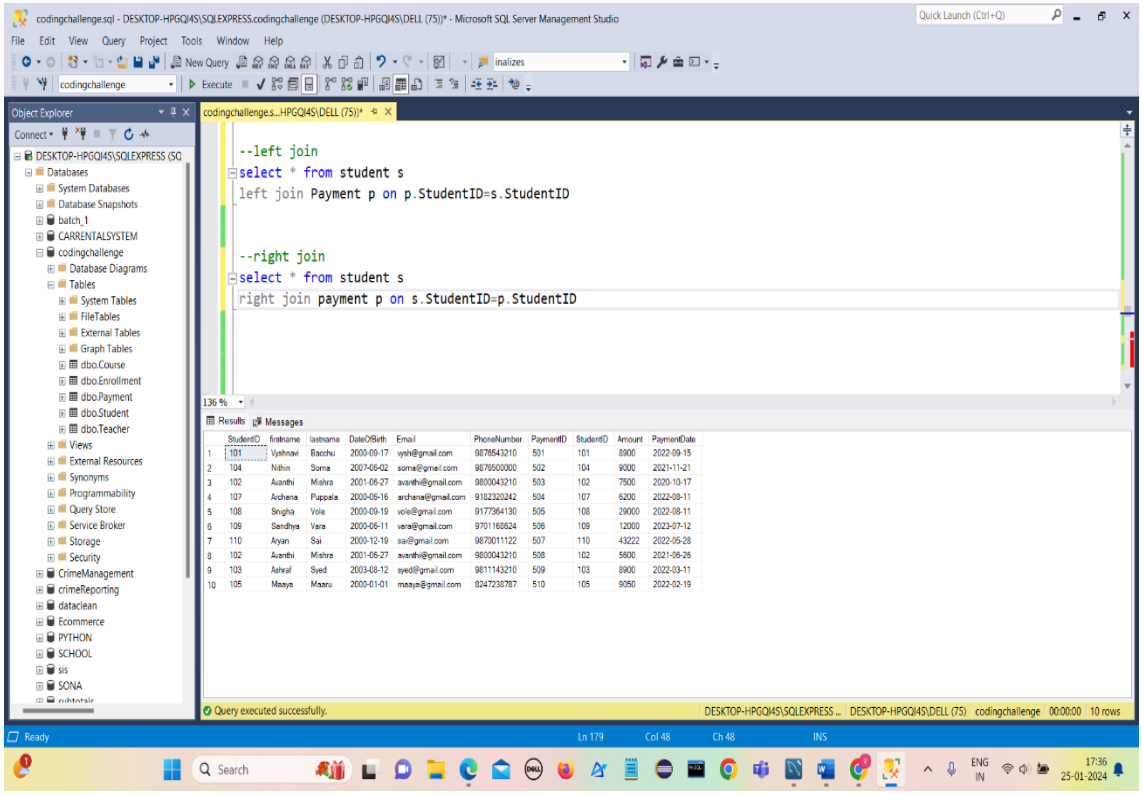


Explanation:

In this query left join is performed on student and payment table which gives all records from student table and matching records from payment table.

3) Right join

RIGHT JOIN is similar to LEFT JOIN. This join returns all the rows of the table on the right side of the join and matching rows for the table on the left side of the join. For the rows for which there is no matching row on the left side, the result-set will contain null.

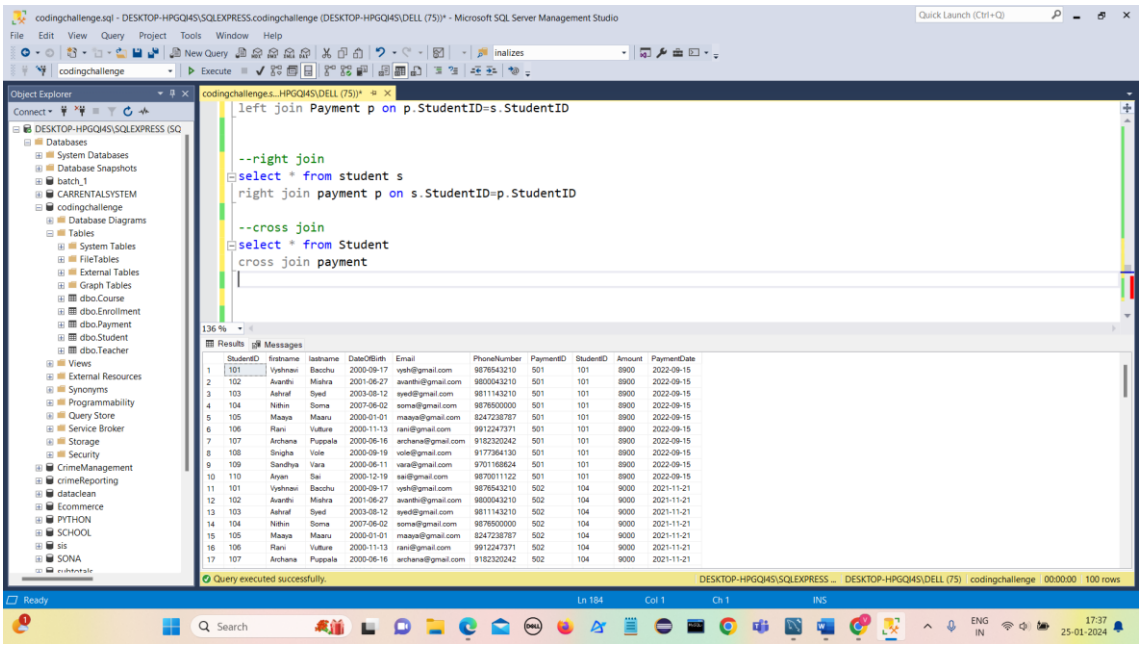


Explanation:

In this query right join is performed on student and payment table which gives all records from payment table and matching records from student table.

4) Cross join

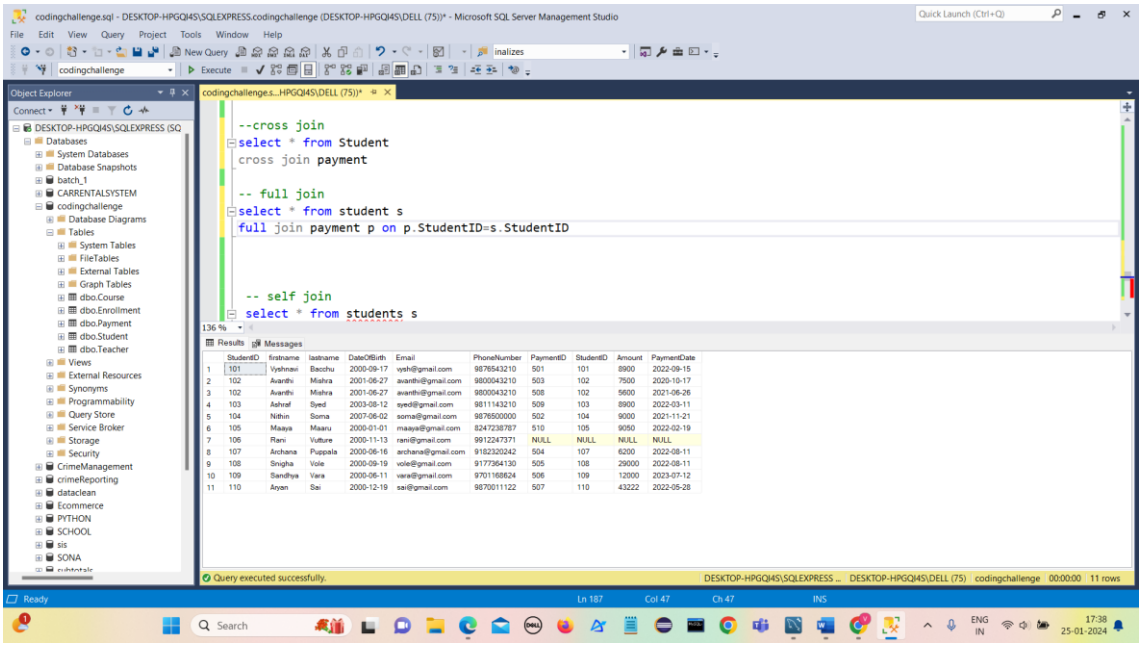
A cross join is a type of join that returns the Cartesian product of rows from the tables in the join. It combines each row from the first table with each row from the second table



Explanation:

In this query cross join is performed on student and payment table which gives cartesian product of rows from student and payment table.It combines each row from thestudent table with each row from the payment table.

5) Full join

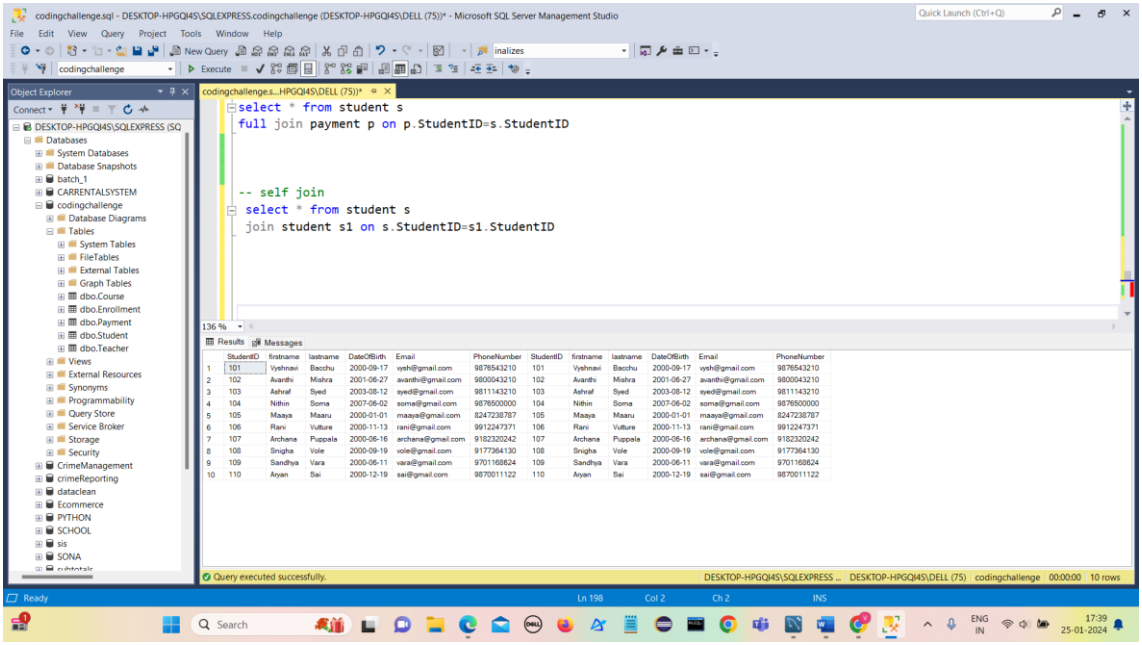


FULL JOIN creates the result-set by combining results of both LEFT JOIN and RIGHT JOIN. The result-set will contain all the rows from both tables. For the rows for which there is no matching, the result-set will contain NULL values

Explanation:
This full join joins student and payment table and combines the results of both left and right join.

6) Self join:

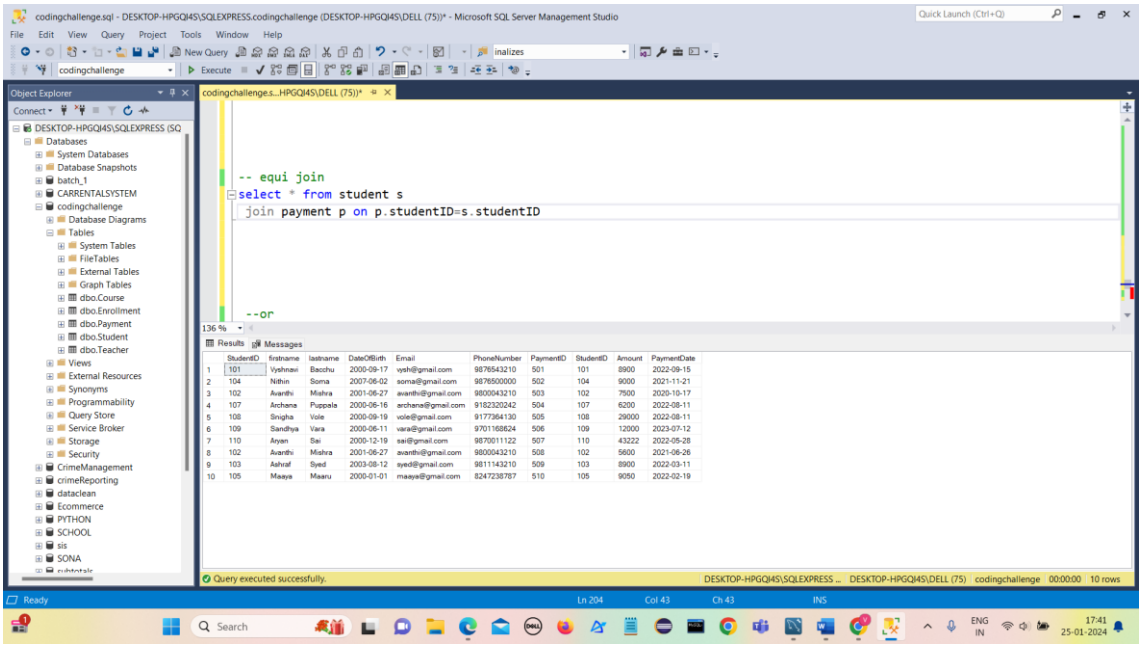
A self join is a regular join that is used to join a table with itself. It basically allows us to combine the rows from the same table based on some specific conditions.



Explanation:
In this query student table is joined with itself based on a condition.

7) Equi join:

EQUI JOIN creates a JOIN for equality or matching column(s) values of the relative tables. EQUI JOIN also create JOIN by using JOIN with ON and then providing the names of the columns with their relative tables to check equality using equal sign (=).

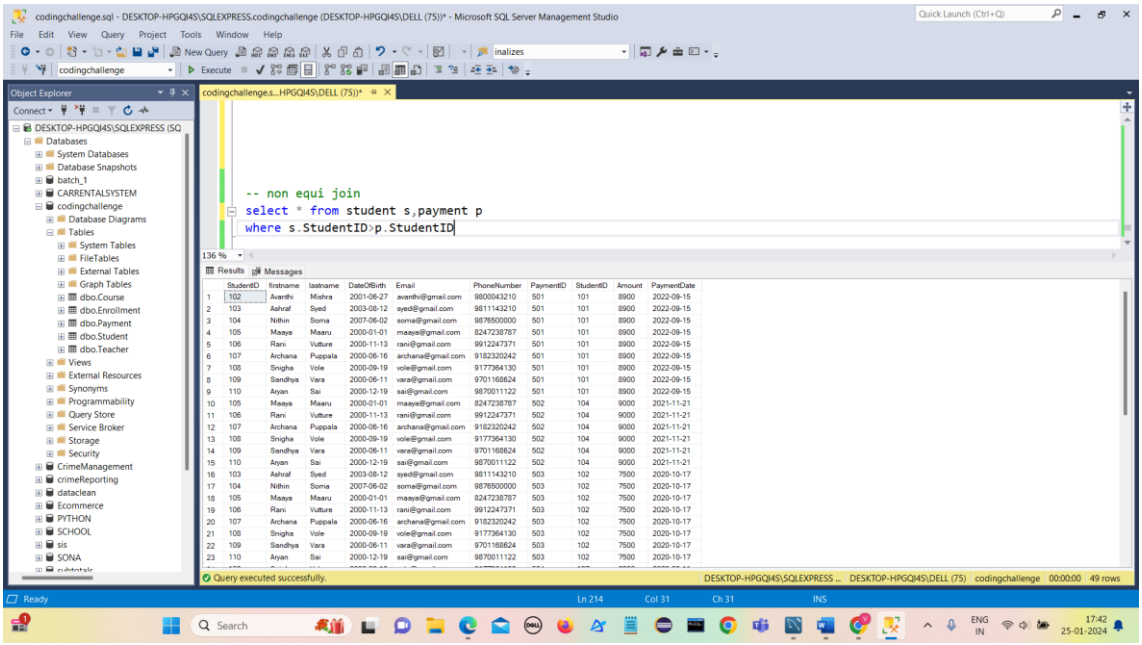


Explanation:

In this query student and payment table are joined based on a equality condition .The queries are returned when the studentid s are same.

8) Non-Equi Join:

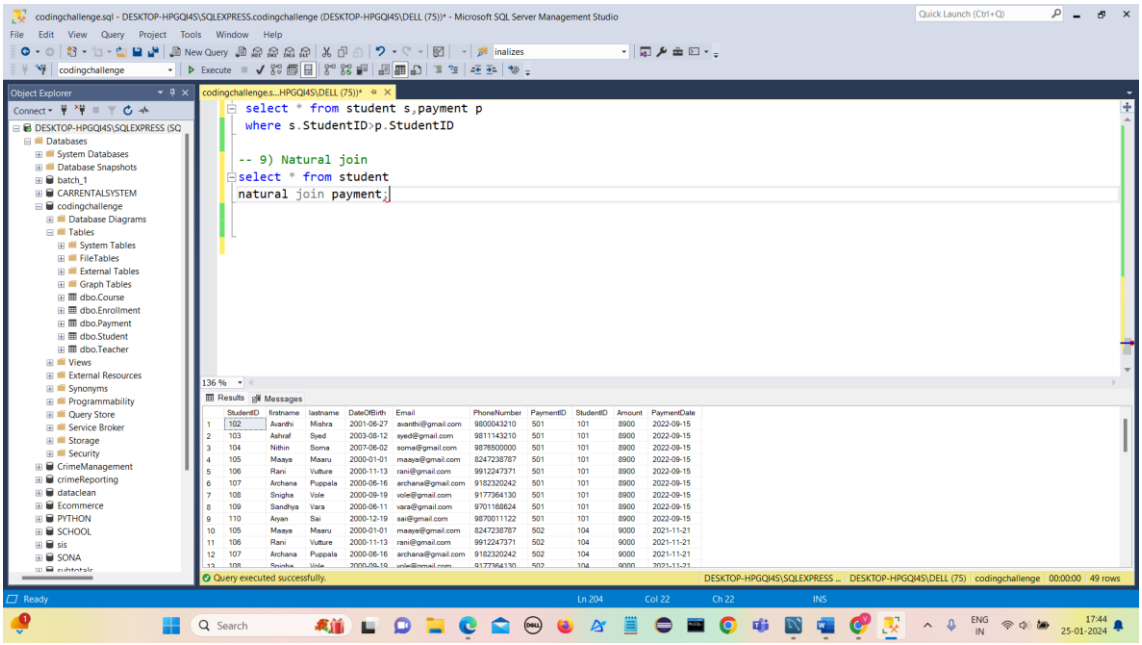
NON EQUI JOIN performs a JOIN using comparison operator other than equal(=) sign like >, =, <= with conditions.



Explanation:
In this query student and payment table are combined with an operator > .It returns queries when studentid in student table is greater than that in payment table.

9) **Natural join**

A natural join returns all rows by matching values in common columns having same name and data type of columns and that column should be present in both tables.



Explanation:

In this query student and payment table are joined if they have same name and same data type.