What is a result set?

A result set is a set of records, could be empty or not, returned by a SELECT statement or a stored procedure, that is saved in RAM or displayed on the screen, including the data and the metadata such as column names, types, and sizes

What is the difference between Union and Union All?

1. UNION will remove duplicates, while UNION ALL will not
2. UNION will sort the result by the order of first column by default. UNION ALL will keep the original sequence by default

What are the other Set Operators SQL Server has?

Besides UNION and UNION ALL, SQL Server has other set operators:

- INTERSECT, which returns the distinct values that are returned by both the query on the left and right sides of the INTERSECT operator
- EXCEPT, which returns distinct rows from the left query that are not output by the right query
- MINUS, which is the same as EXCEPT

What is the difference between UNION and JOIN?

- UNION is used to combine multiple queries into a single query with all the records of queries and the same column forms. It combines the results vertically.
- JOIN is used to combine data from multiple queries with the column names of all queries. It combines the data horizontally.

What is the difference between INNER JOIN and FULL JOIN?

- INNER JOIN will return the rows that has matched elements in both left and right query
- FULL JOIN will return all the rows of both queries. Unmatched columns will be filled with NULL.

What is CROSS JOIN?

CROSS JOIN returns the Cartesian product of query multiplication, which represents all the combinations of queries elements.

What is the difference between WHERE clause and HAVING clause

- HAVING applies to only groups as a whole and only filters on aggregated functions while WHERE applies to individual rows
- HAVING filters after aggregation while WHERE goes before aggregation
- HAVING can only be applied with SELECT while WHERE can be with SELECT, UPDATE, DELETE, INSERT.
- WHERE executes before HAVING. So WHERE could only work on columns that are already exist in original queries while HAVING could be used on columns that are created during the former process.

Can there be multiple GROUP BY columns?

Yes. If there are multiple columns following GROUP BY, SQL will put the rows with the same values in all those columns in the same group.