1. **What is a result set?**

Ans: A result set is the output of the query. It is a set of rows from the database.

1. **What is the difference between Union and Union All?**

Ans:

1) UNION combines two or more tables to a single set without duplicates. UNION ALL includes duplicates.

2) UNION will sort the value of first column automatically while UNION ALL will not.

3) UNION cannot be used in recursive cte but UNION ALL can.

1. **What are the other Set Operators SQL Server has?**

Ans:

INTERSECT and EXCEPT.

1. INTERSECT returns any distinct values that are returned by both the query on the left and right sides of the INTERSECT operator.
2. EXCEPT returns all the rows that are in the left query but not in the right query.
3. **What is the difference between Union and Join?**

Ans:

UNION is used to combine two or more result sets to a single set. These result sets must have the same number of columns, and the datatype of each column must be the same. It combines data into new rows.

JOIN is used to combine data from many tables based on a matched condition between them. The tables can have different number of columns. It combines data into new columns.

1. **What is the difference between INNER JOIN and FULL JOIN?**

Ans:

INNER JOIN only returns matched records from the left table and matched records from the right table.

FULL JOIN returns all the rows from both tables.

1. **What is difference between left join and outer join**

Ans:

LEFT JOIN stands for LEFT OUTER JOIN, it returns all the records from the left table and matched records from the right table.

OUTER JOIN stands for FULL OUTER JOIN, it returns all the records from both the tables.

1. **What is cross join?**

Ans: CROSS JOIN returns cartesian product of two tables.

1. **What is the difference between WHERE clause and HAVING clause?**

Ans:

1. WHERE clause applies to individual rows but HAVING applies to the group.
2. WHERE goes before aggregations while HAVING goes after aggregations. The order is:

FROM/JOIN -> WHERE -> GROUP BY -> HAVING -> SELECT -> ORDER BY

1. WHERE can be used with SELECT and UPDATE but HAVING can only be used with SELECT.
2. **Can there be multiple group by columns?**

Ans: Yes. To be more specific, if we have both aggregate function and non- aggregate fields in the SELECT clause, we must group by all the non-aggregate fields with their relative order.