Important Questions

1. Types of joins in Sql Server

Rretrieve data from multiple tables using the JOIN clause, there are **five** types of joins:

1) inner join 2) left outer join or Left Join 3) right outer join or Right Join 4) full outer join or Full join 5) cross join Example: **CREATE TABLE #EMP** EMPID BIGINT, EMPNAME VARCHAR(100), PLACE VARCHAR(100) **INSERT INTO #EMP** SELECT 101, 'SAIRAM', 'HYDERABAD' **UNION ALL** SELECT 101, 'SAIRAM', 'SECUNDRABAD' **UNION ALL** SELECT 101, 'SAIRAM', 'WARANGAL' **UNION ALL** SELECT 102, 'SRIKANTH', 'KARIMNAGAR' **UNION ALL** SELECT 102, 'SRIKANTH', 'SIDDIPET' **UNION ALL** SELECT 103, 'RAMESH', 'ONGOLE' **CREATE TABLE #EMPTRANS** EMPID BIGINT, TRANSID BIGINT **INSERT INTO #EMPTRANS** SELECT 101,1000001 **UNION ALL** SELECT 101,1000002 **UNION ALL**

Table: #EMP

UNION ALL

SELECT 102,1000003

SELECT 102,1000004

EMPID	EMPNAME	PLACE
101	SAIRAM	HYDERABAD
101	SAIRAM	SECUNDRABAD
101	SAIRAM	WARANGAL
102	SRIKANTH	KARIMNAGAR
102	SRIKANTH	SIDDIPET
103	RAMESH	ONGOLE

Table: **#EMPTRANS**

EMPID	TRANSID
101	1000001
101	1000002
102	1000003
102	1000004
105	1000006

1) Inner join:

Matched rows between the two tables specified in the INNER JOIN statement based on one or more columns having matching data.

Resultant row count = (Matched row_count from left table * Match row_count from right table)+...+(Matched row_count from left table * Match row_count from right table)

```
==> From the above tables
Resultant row count = (3*2)+(2*2) = 10

SELECT * FROM #EMP E
INNER JOIN #EMPTRANS T on E.EMPID = T.EMPID
```

2) Left Join:

Based on the two tables specified in the join clause, all data is returned from the left table. On the right table, the matching data is returned in addition to NULL values where a record exists in the left table, but not in the right table.

```
Resultant row count = (Matched row_count from left table * Matched row_count from right table) +...+(Matched row_count from left table * Matched row_count from right table) + Unmatched row count from left table
```

```
==> From the above tables
Resultant row count = (3*2) + (2*2) +1 = 11

SELECT * FROM #EMP E
LEFT JOIN #EMPTRANS T on E.EMPID = T.EMPID
```

3) Right Join:

Based on the two tables specified in the join clause, all data is returned from the right table. On the left table, the matching data is returned in addition to NULL values where a record exists in the right table but not in the left table.

```
Resultant row count = (Matched row_count from left table * Matched row_count from right table) +...+(Matched row_count from left table * Matched row_count from right table) + Unmatched row count from right table
```

```
==> From the above tables
Resultant row count = (2*3)+(2*2)+1 = 11

SELECT * FROM #EMP E
RIGHT JOIN #EMPTRANS T on E.EMPID = T.EMPID
```

4) Full Join:

Based on the two tables specified in the join clause, all data is returned from both tables regardless of matching data.

```
Resultant row count = (Matched row_count from right table * Matched row_count from left table)+...+ (matched row_count from left table * matched row_count from left table)+Unmatched row_count from left table + Unmatched row_count from right table
```

```
==> From the above tables
Resultant row count = (2*3)+(2*2)+1+1 = 12

SELECT * FROM #EMP E
RIGHT JOIN #EMPTRANS T on E.EMPID = T.EMPID
```

5) Cross Join:

Based on the two tables specified in the join clause, a Cartesian product is created if a WHERE clause does filter the rows. The size of the Cartesian product is based on multiplying the number of rows from the left table by the number of rows in the right table. Please heed caution when using a CROSS JOIN.

Resultant row count = row count from right table * row count from left table

```
==> From the above tables
Resultant row count = 6*5 = 30

SELECT * FROM #EMP E
CROSS JOIN #EMPTRANS T on E.EMPID = T.EMPID
```

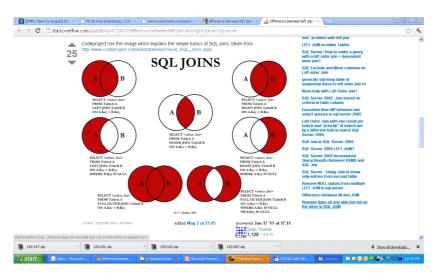
Self Join (this is not a Join):

In this circumstance, the same table is specified twice with two different aliases in order to match the data within the same table.

Resultant row count = (matched row_count from left table * matched row_count from left table)+...+ (matched row_count from left table * matched row_count from left table)

==> From the above tables Resultant row count = (3*3)+(2*2)+(1*1) = 14

SELECT * FROM #EMP E
INNER JOIN #EMP T on E.EMPID = T.EMPID



2. Index?

3.