Forgotten T-SQL Cheat Sheet

**Logical Processing Order of SELECT**

1. FROM table
2. ON join condition
3. JOIN table
4. WHERE clauses
5. GROUP BY columns
6. WITH CUBE / WITH ROLLUP
7. HAVING condition
8. SELECT columns
9. DISTINCT
10. ORDER BY columns
11. TOP % or number

**CTEs**

; WITH cteName (columnList) AS (SELECT statement)
SELECT columns
FROM cteName
INNER JOIN table ON condition

**Recursive CTEs**

; WITH cteName (columnList) AS ( -- Anchor statement:
SELECT columns FROM table...
UNION ALL
-- Recursion statement:
SELECT columns FROM table...
INNER JOIN cteName ON ...
)
SELECT columns
FROM cteName

**OVER and PARTITION BY**

/* Aggregate functions include COUNT, MIN, MAX, AVG, ROW_COUNT(), etc. */

SELECT
   agg_func(col1) OVER(),
   agg_func(col2)
   OVER(PARTITION BY col2),
   columns
FROM table...

**XML Trick: List of Details**

/* Table2 holds detail rows for Table1; e.g., order details to order headers. */

SELECT columns,
colname = STUFF(
  ( SELECT ', '
  + Name
  FROM Table2
  WHERE Table1.ID = Table2.ID
  ORDER BY Name
  FOR XML PATH('')
  ), 1, 1, ''
) FROM Table2

**EXCEPT/INTERSECT**

SELECT col1, col2 FROM Table1
EXCEPT
SELECT col3, col4 FROM Table2

SELECT col1, col2 FROM Table1
INTERSECT
SELECT col3, col4 FROM Table2

**MERGE**

DECLARE @Changes TABLE (Change VARCHAR(20))

; MERGE INTO DestTable
USING (SELECT from sourceTable ) AS Source (columnList)
ON DestTable.ID = Source.ID
WHEN MATCHED THEN
  Action on destination /* E.g., UPDATE SET col1 = 1 */
WHEN NOT MATCHED BY TARGET|SOURCE
  Action on destination /* E.g., INSERT (col1) VALUES(1) */

OUTPUT $action INTO @Changes

SELECT * FROM @Changes

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