

Paging

paging - limiting the number of rows returned by a SELECT query

- rows are selected after ordering
- used symbols: o – offset, n – number of rows, '+' - recommended methods
- notes are based on PMOSL documentation and SQL Standard syntax

P OS + ORDER BY ... (S: requires OFFSET)
↓
[OFFSET o ROWS] [FETCH FIRST [n=1] ROWS {ONLY | WITH TIES}] (S: required) (S: no) SQL:2008/2011
||| ||| ||| Std: <result offset clause>
ROW NEXT ROW <fetch first clause>
↑
if the last row on the "page" has the same value as some next row(s), then return also these rows

- rows are selected after ordering

PM L + ORDER BY ... (ML: requires LIMIT)
↓
[LIMIT n] [OFFSET o]

- n is NULL => (ML: error) (P: no limit)
 o is NULL => (ML: error) (P: no offset)
 (ML: ≡ "LIMIT [o=0,] n" - don't use, because of ambiguity)

- O - technique using ROWNUM - deprecated for paging; rows are selected before ordering!
- S - SELECT TOP(n) [PERCENT] [WITH TIES] ... - deprecated for paging; SQL Server ≥ 2005

If the result of a query has very large number of rows, and if users browse them often to the end, then using OFFSET for paging is slow, because DBMS has to count rows in the table to skip them. Still, it is the simplest method of paging a result. See <https://use-the-index-luke.com/no-offset> for details.