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

(S: requires OFFSET)

SQL:2008/2011

Std: <result offset clause>

<fetch first clause>

(S: no)

(S: required)

P OS + ORDER BY …

[OFFSET o ROWS] [FETCH FIRST [n=1] ROWS {ONLY|WITH TIES}]

if the last row on the "page" has the same value as some next row(s), then return also these rows

ROW

≡

NEXT

≡

ROW

≡

- rows are selected after ordering

(ML: requires LIMIT)

PM L + ORDER BY … - n is NULL => (ML: error) (P: no limit)

[LIMIT n] [OFFSET o] 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.