**CURSORS**

**CURSORS**: A SPECIAL TYPE OF VARIABLE (STORED IN MEMORY) TO ACCESS ONE ROW AT A TIME.

PURPOSE: FOR EASY DATA ACCESS and FOR ROW LEVEL AUDITS.

**LIFE CYCLE**: STEP 1: **DECLARE** CURSOR VARIABLE

STEP 2: **OPEN** CURSOR VARIABLE

STEP 3: **FETCH** / ACCESS THE DATA. ONE ROW AT A TIME.

STEP 4: **CLOSE** CURSOR VARIABLE

STEP 5: **DEALLOCATE** CURSOR VARIABLE : TO REMOVE CURSOR FROM **MEMORY**

**TYPES OF CURSORS**:

1 **LOCAL CURSOR** : CURSORS ARE ACCESSIBLE WITHIN THE BATCH

\* 2 **GLOBAL CURSOR** : CURSORS ARE ACCESSIBLE WITHIN THE SESSION (query window)

3 **STATIC CURSOR** : CURSORS CANNOT SEE RECENT UPDATES TO BASE TABLES

\* 4 **DYNAMIC CURSOR** : CURSORS CAN SEE RECENT UPDATES TO BASE TABLES

\* 5 **FORWARD\_ONLY CURSOR** : CURSORS CAN FETCH DATA IN **next** DIRECTION ONLY

6 **SCROLL CURSOR** : CURSORS CAN FETCH DATA IN **first, next, prior, last** DIRECTIONS

7 **KEYSET CURSOR** : CURSORS FETCH DATA USING INDEXES ON TABLES & VIEWS

**SYNTAX**:

DECLARE CURSOR-NAME CURSOR FOR << SELECT STATEMENT >>

CREATE TABLE tbltest

(

ID INT,

Value INT,

RANK INT

)

INSERT INTO tbltest VALUES(1,11,NULL) INSERT INTO tbltest VALUES(2,22,NULL)

INSERT INTO tbltest VALUES(3,33,NULL) INSERT INTO tbltest VALUES(4,33,NULL)

INSERT INTO tbltest VALUES(5,44,NULL) INSERT INTO tbltest VALUES(6,44,NULL)

INSERT INTO tbltest VALUES(7,55,NULL) INSERT INTO tbltest VALUES(8,55,NULL)

INSERT INTO tbltest VALUES(9,55,NULL) INSERT INTO tbltest VALUES(10,55,NULL)

SELECT \* FROM tbltest

**-- EXAMPLE 1:**

DECLARE CRS CURSOR

FOR

SELECT \* FROM tbltest

OPEN CRS

FETCH NEXT FROM CRS

FETCH NEXT FROM CRS

CLOSE CRS

DEALLOCATE CRS

**-- EXAMPLE 2:**

DECLARE CRS CURSOR

STATIC

SCROLL

GLOBAL

FOR

SELECT \* FROM tbltest

OPEN CRS

FETCH FIRST FROM CRS

FETCH NEXT FROM CRS

FETCH NEXT FROM CRS

FETCH ABSOLUTE 5 FROM CRS

FETCH LAST FROM CRS

FETCH PRIOR FROM CRS

FETCH FIRST FROM CRS

CLOSE CRS

DEALLOCATE CRS

**-- HOW TO USE CURSORS IN REAL-WORLD?**

-- REQ: HOW TO REPORT LIST OF ALL TABLES WITH RESPECTIVE ROW COUNT IN EACH TABLE?

USE [PRODUCT DATABASE]

go

SELECT COUNT(\*) FROM CUSTOMERS\_DATA

SELECT COUNT(\*) AS RCOUNT FROM CUSTOMERS\_DATA

SELECT 'CUSTOMERS\_DATA' AS TNAME, COUNT(\*) AS RCOUNT FROM CUSTOMERS\_DATA

CREATE PROCEDURE USP\_REP\_TABLEROCOUNTV

AS

BEGIN

DECLARE CRS CURSOR FOR SELECT NAME FROM SYS.TABLES

DECLARE @TABNAME SYSNAME, @QUERY NVARCHAR(MAX)

OPEN CRS

FETCH NEXT FROM CRS INTO @TABNAME

WHILE @@FETCH\_STATUS = 0

BEGIN

SET @QUERY = 'SELECT ''' + @TABNAME+''' AS TNAME, COUNT(\*) AS RCOUNT FROM ' + @TABNAME

EXEC SP\_EXECUTESQL @QUERY

FETCH NEXT FROM CRS INTO @TABNAME

END

CLOSE CRS

DEALLOCATE CRS

END

CREATE TABLE #TABLE (TABNAME SYSNAME, RCOUNT BIGINT)

INSERT INTO #TABLE EXEC USP\_REP\_TABLEROCOUNTV

SELECT \* FROM #TABLE