CURSOR:Cursor is a memory location for storing database tables. cursor is a

temporary work area allotted to the client at server when a SQL statement is

executed. A cursor contains information on a select statement and the rows of data

accessed by it.

This temporary work area is used to store the data retrieved from the database, and

manipulate this data. A cursor can hold more than one row, but can process only

one row at a time. The set of rows the cursor holds is called the Result set.

There are two types of cursors in T/SQL:

Implicit Cursors: These cursors will be created by SQL server by default

when select statement will executed. Select statement will show records in the

table as a set or result set.

Explicit Cursors: When user can create a memory location to store the tables

then it is called as Explicit Cursors. These cursors will access the records in the

table record by record or one by one only. Whenever we want to go for record by

record manipulation then explicit cursors will be used.

Steps To Create Cursor:

1)Declaring A Cursor:In this process we define a cursor.

Syntax: Declare <cursorname> cursor for < select statement>

2)Opening A Cursor:When we open a cursor it will internally execute the select

statement that is associated with the cursor declartion and load the data into cursor.

Syntax: Open < cursorname>

3)Fetching Data From The Cursor:In this process we access row by row from

cursor.

Syntax: Fetch first/last/next/prior/absolute n/relative n from <cursorname> into

<variables>

4)Closing A Cursor: In this Process,it releases the current result set of the cursor

leaving the datastructure available for reopening.

Syntax: Close <cursorname>

5) Deallocate A Cursor: It removes the cursor reference and deallocate it by

destroye the data structure.

Syntax: Deallocate <cursorname>

@@Fetch\_Status: It is global variable use to check wheather cursor variable

contains records or not.if record is there then the value will be zero other wise

value will be -1.

Example To Work with Cursor:

Ex: Create an explicit cursor to display all the records from the table.

Sol: declare @dno int,@dname char(20),@loc varchar(20)

declare c1 cursor for select \* from dept

open c1

fetch next from c1 into @dno,@dname,@loc

while @@FETCH\_STATUS=0

begin

print @dno

print @dname

print @loc

fetch next from c1 into @dno,@dname,@loc

end

close c1

deallocate c1

Ex: Create an explicit cursor to display salaries of each employee in the table.

declare @ename varchar(50),@sal money

declare empcur cursor for select name,sal from employee

open empcur

fetch next from empcur into @ename,@sal

while @@FETCH\_STATUS=0

begin

print 'Salary Of'+' '+@ename+'is: -'+cast(@sal as varchar)

fetch next from empcur into @ename,@sal

end

close empcur

deallocate empcur

Ex: Write a program to increment the salaries of all the employee basing

on the following criteria President 10%,Manager 5% and others 3%.

Declare @eno int,@job varchar(20)

Delcare empcur cursor for select Eid,Job from employee

Open empcur

Fetch next from empcur into @eno,@job

While @@Fetch\_Status=0

Begin

If @job=’president’

Update employee set sal+=sal\*0.10 where eid=@eno

Else if @job=’Manager’

Update employee set sal+=sal\*0.05 where eid=@eno

Else

Update employee set sal+=sal\*0.03 where eid=@eno

Fetch next from empcur into @eno,@job

End

Close empcur

Deallocate empcur

Forward only and Scroll Cursors:

If a cursor is declare as forward only it allows you to navigate only to the next

records in sequential order and more over it supports only a singleton fashion

method that is fetch next(one-by-one) where as a scroll cursor allows you to

navigate/fetch Bidirectionally that is top- bottam or bottom-top also.And it

supports six different fetch methods are

Fetch Next,Fetch First,Fetch Last,Fetch Prior,Fetch Absolute ,Fetch Relative.

Ex: Create an explicit cursor to fetch the records One-by-One manner(First-Last)

from the table.

Sol: declare c1 cursor for select \* from dept

open c1

fetch next from c1

while @@FETCH\_STATUS=0

begin

fetch next from c1

end

close c1

deallocate c1

Ex: Create an explicit cursor to fetch the records from bottom -first (LastFirst)from the table.

Sol: declare c1 cursor scroll for select \* from dept

open c1

fetch last from c1

while @@FETCH\_STATUS=0

begin

fetch prior from c1

end

close c1

deallocate c1

Ex: Create an explicit cursor on fetching methods.

declare @id int

declare e cursor scroll

for select sid from student

open e

fetch next from e into @id

print @id

fetch last from e into @id

print @id

fetch prior from e into @id

print @id

fetch absolute 3 from e into @id

print @id

fetch relative -1 from e into @id

print @id

fetch first from e into @id

print @id

close e

deallocate e

Static & Dynamic Cursors: If a cursor is declare as static after opening

the cursor any modifications that are performed to the data in the table will not be

reflected into cursor so the cursor contains old values only in it.

Declare @sal money

Declare c1 cursor static for select sal from employee

Where eid=100

Open c1

Update employee set sal=25000 where eid=100

Fetch next from c1 into @sal

Print @sal

Close c1

Deal locate c1