**Лабораторная работа № 10. Обработка результатов запросов с помощью курсоров**

1. Разработать сценарий, формирующий список дисциплин на кафедре ИСиТ. В отчет должны быть выведены краткие названия (поле SUBJECT) из таблицы SUBJECT в одну строку через запятую. Использовать встроенную функцию RTRIM.

use UNIVER;

DECLARE isit\_subjects CURSOR FOR

SELECT SUBJECT\_T.SUBJECT\_T

FROM SUBJECT\_T

WHERE SUBJECT\_T.PULPIT = 'ИСиТ';

DECLARE @subject char(30), @subjects char(500) ='';

OPEN isit\_subjects;

FETCH isit\_subjects into @subject;

PRINT 'Дисциплины кафедры ИСиТ:';

WHILE @@FETCH\_STATUS = 0

BEGIN

SET @subjects = RTRIM(@subject) + ', ' + @subjects;

FETCH isit\_subjects into @subject;

END;

PRINT @subjects;

CLOSE isit\_subjects;



1. Разработать сценарий, демонстрирующий отличие глобального курсора от локального на примере базы данных X\_UNIVER.

-- local

DECLARE isit\_subjects\_local CURSOR LOCAL FOR

SELECT SUBJECT\_T.SUBJECT\_T

FROM SUBJECT\_T

WHERE SUBJECT\_T.PULPIT = 'ИСиТ';

PRINT 'Дисциплины кафедры ИСиТ (local cursor):';

GO

DECLARE @subject char(30), @subjects char(500) ='';

OPEN isit\_subjects\_local;

FETCH isit\_subjects\_local into @subject;

WHILE @@FETCH\_STATUS = 0

BEGIN

SET @subjects = RTRIM(@subject) +', ' + @subjects;

FETCH isit\_subjects\_local into @subject;

END;

PRINT @subjects;

CLOSE isit\_subjects\_local;

GO

-- global

GO

use UNIVER;

DECLARE isit\_subjects\_global CURSOR GLOBAL FOR

SELECT SUBJECT\_T.SUBJECT\_T

FROM SUBJECT\_T

WHERE SUBJECT\_T.PULPIT = 'ИСиТ';

PRINT 'Дисциплины кафедры ИСиТ (global cursor):';

GO

DECLARE @subject char(30), @subjects char(500) ='';

OPEN isit\_subjects\_global;

FETCH isit\_subjects\_global into @subject;

WHILE @@FETCH\_STATUS = 0

BEGIN

SET @subjects = RTRIM(@subject) +', ' + @subjects;

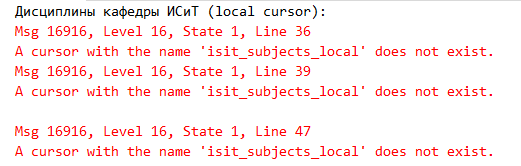
FETCH isit\_subjects\_global into @subject;

END;

PRINT @subjects;

CLOSE isit\_subjects\_global;

GO



1. Разработать сценарий, демонстрирующий отличие статических курсоров от динамических на примере базы данных X\_UNIVER.

-- static

DECLARE isit\_subjects\_static CURSOR STATIC FOR

SELECT SUBJECT\_T.SUBJECT\_T

FROM SUBJECT\_T

WHERE SUBJECT\_T.PULPIT = 'ИСиТ';

DECLARE @subject char(30), @subjects char(500) ='';

OPEN isit\_subjects\_static;

INSERT INTO SUBJECT\_T VALUES('test\_subj', 'test\_subj', 'ИСиТ');

FETCH isit\_subjects\_static into @subject;

PRINT 'Дисциплины кафедры ИСиТ:';

WHILE @@FETCH\_STATUS = 0

BEGIN

SET @subjects = RTRIM(@subject) +', ' + @subjects;

FETCH isit\_subjects\_static into @subject;

END;

PRINT @subjects;

CLOSE isit\_subjects\_static;

DELETE SUBJECT\_T WHERE SUBJECT\_NAME = 'test\_subj';

GO

-- dynamic

GO

use UNIVER;

DECLARE isit\_subjects\_dynamic CURSOR DYNAMIC FOR

SELECT SUBJECT\_T.SUBJECT\_T

FROM SUBJECT\_T

WHERE SUBJECT\_T.PULPIT = 'ИСиТ';

DECLARE @subject char(30), @subjects char(500) ='';

OPEN isit\_subjects\_dynamic;

INSERT INTO SUBJECT\_T VALUES('test\_subj', 'test\_subj', 'ИСиТ');

FETCH isit\_subjects\_dynamic into @subject;

PRINT 'Дисциплины кафедры ИСиТ:';

WHILE @@FETCH\_STATUS = 0

BEGIN

SET @subjects = RTRIM(@subject) +', ' + @subjects;

FETCH isit\_subjects\_dynamic into @subject;

END;

PRINT @subjects;

CLOSE isit\_subjects\_dynamic;

DELETE SUBJECT\_T WHERE SUBJECT\_T = 'test\_subj';

GO



1. Разработать сценарий, демонстрирующий свойства навигации в результирующем наборе курсора с атрибутом SCROLL на примере базы данных X\_UNIVER. Использовать все известные ключевые слова в операторе FETCH.

GO

SET nocount on;

use UNIVER;

DECLARE isit\_subjects\_scroll CURSOR LOCAL DYNAMIC SCROLL FOR

SELECT

ROW\_NUMBER() over (order by SUBJECT\_T),

SUBJECT\_T.SUBJECT\_T

FROM SUBJECT\_T

WHERE SUBJECT\_T.PULPIT = 'ИСиТ';

DECLARE @subject char(30), @row int = 0;

OPEN isit\_subjects\_scroll;

FETCH isit\_subjects\_scroll INTO @row, @subject;

PRINT 'Next line: [' + CAST(@row as varchar(4)) + '. ' + RTRIM(@subject) + ']';

FETCH LAST FROM isit\_subjects\_scroll INTO @row, @subject;

PRINT 'Last line: [' + CAST(@row as varchar(4)) + '. ' + RTRIM(@subject) + ']';

FETCH RELATIVE -1 FROM isit\_subjects\_scroll INTO @row, @subject;

PRINT 'Previous line: [' + CAST(@row as varchar(4)) + '. ' + RTRIM(@subject) + ']';

FETCH ABSOLUTE 2 FROM isit\_subjects\_scroll INTO @row, @subject;

PRINT 'Second line: [' + CAST(@row as varchar(4)) + '. ' + RTRIM(@subject) + ']';

FETCH ABSOLUTE -2 FROM isit\_subjects\_scroll INTO @row, @subject;

PRINT 'Second line from end: [' + CAST(@row as varchar(4)) + '. ' + RTRIM(@subject) + ']';

1. Создать курсор, демонстрирующий применение конструкции CURRENT OF в секции WHERE с использованием операторов UPDATE и DELETE.

INSERT INTO SUBJECT\_T VALUES('test\_subj1', 'test\_subj1', 'ИСиТ');

INSERT INTO SUBJECT\_T VALUES('test\_subj2', 'test\_subj2', 'ИСиТ');

INSERT INTO SUBJECT\_T VALUES('test\_subj3', 'test\_subj3', 'ИСиТ');

DECLARE isit\_subjects\_currentof CURSOR LOCAL DYNAMIC FOR

SELECT \*

FROM SUBJECT\_T

WHERE SUBJECT\_T.PULPIT = 'ИСиТ' AND SUBJECT\_T LIKE 'test\_subj%'

FOR UPDATE;

DECLARE @subject varchar(30), @subject\_name varchar(30), @pulpit varchar(30);

OPEN isit\_subjects\_currentof;

FETCH isit\_subjects\_currentof INTO @subject, @subject\_name, @pulpit;

PRINT @subject + ' ' + @subject\_name + ' ' + @pulpit;

DELETE SUBJECT\_T WHERE CURRENT OF isit\_subjects\_currentof;

FETCH isit\_subjects\_currentof INTO @subject, @subject\_name, @pulpit;

UPDATE SUBJECT\_T SET SUBJECT\_T.SUBJECT\_T += '(upd)' WHERE CURRENT OF isit\_subjects\_currentof;

PRINT @subject + ' ' + @subject\_name + ' ' + @pulpit;

CLOSE isit\_subjects\_currentof;

OPEN isit\_subjects\_currentof;

WHILE @@FETCH\_STATUS = 0

BEGIN

PRINT @subject + ' ' + @subject\_name + ' ' + @pulpit;

FETCH isit\_subjects\_currentof into @subject, @subject\_name, @pulpit;

END;

CLOSE isit\_subjects\_currentof;

1. Разработать SELECT-запрос, с помощью которого из таблицы PROGRESS удаляются строки, содержащие информацию о студентах, получивших оценки ниже 4 (использовать объединение таблиц PROGRESS, STUDENT, GROUPS). Разработать SELECT-запрос, с помощью которого в таблице PROGRESS для студента с конкретным номером IDSTUDENT корректируется оценка (увеличивается на единицу).

GO

DECLARE @id varchar(10), @name varchar(100), @subj varchar(50), @note varchar(2);

DECLARE PROGRESS\_DELETE\_CURSOR CURSOR LOCAL DYNAMIC FOR

SELECT STUDENT.IDSTUDENT, STUDENT.NAME, PROGRESS.SUBJECT\_T, PROGRESS.NOTE

FROM PROGRESS JOIN STUDENT on PROGRESS.IDSTUDENT = STUDENT.IDSTUDENT

FOR UPDATE;

OPEN PROGRESS\_DELETE\_CURSOR

FETCH PROGRESS\_DELETE\_CURSOR into @id, @name, @subj, @note;

IF(@note < 4)

BEGIN

DELETE PROGRESS WHERE CURRENT OF PROGRESS\_DELETE\_CURSOR;

END;

PRINT @id + ' - ' + @name + ' - '+ RTRIM(@subj) + ' - ' + @note ;

WHILE @@FETCH\_STATUS = 0

BEGIN

FETCH PROGRESS\_DELETE\_CURSOR into @id, @name, @subj, @note;

PRINT @id + ' - ' + @name + ' - '+ RTRIM(@subj) + ' - ' + @note ;

IF(@note < 4)

BEGIN

DELETE PROGRESS WHERE CURRENT OF PROGRESS\_DELETE\_CURSOR;

END;

END;

CLOSE PROGRESS\_DELETE\_CURSOR;

OPEN PROGRESS\_DELETE\_CURSOR;

FETCH PROGRESS\_DELETE\_CURSOR into @id, @name, @subj, @note;

IF (@note <= 9)

UPDATE PROGRESS SET NOTE += 1 WHERE CURRENT OF PROGRESS\_DELETE\_CURSOR;

WHILE (@@FETCH\_STATUS = 0)

BEGIN

FETCH PROGRESS\_DELETE\_CURSOR into @id, @name, @subj, @note;

PRINT @id + ' - ' + @name + ' - '+ RTRIM(@subj) + ' - ' + @note ;

IF (@note <= 9)

BEGIN

UPDATE PROGRESS SET NOTE += 1 WHERE CURRENT OF PROGRESS\_DELETE\_CURSOR;

END;

END;

CLOSE PROGRESS\_DELETE\_CURSOR;



1. Разработать курсоры для базы данных **X\_MyBASE** и продемонстрировать их работу.

use Dobriyan\_MyBase;

--#

DECLARE course\_subjects CURSOR FOR

SELECT Course\_Subject

FROM Courses;

DECLARE @subject char(30), @subjects char(500) ='';

OPEN course\_subjects;

FETCH course\_subjects into @subject;

PRINT 'Доступные курсы:';

WHILE @@FETCH\_STATUS = 0

BEGIN

SET @subjects = RTRIM(@subject) + ', ' + @subjects;

FETCH course\_subjects into @subject;

END;

PRINT @subjects;

CLOSE course\_subjects;

--#

GO

DECLARE course\_subjects\_scroll CURSOR LOCAL DYNAMIC SCROLL FOR

SELECT

ROW\_NUMBER() over (order by Course\_Subject),

Course\_Subject

FROM Courses;

DECLARE @subject char(30), @row int = 0;

OPEN course\_subjects\_scroll;

FETCH course\_subjects\_scroll INTO @row, @subject;

PRINT 'Next line: [' + CAST(@row as varchar(4)) + '. ' + RTRIM(@subject) + ']';

FETCH LAST FROM course\_subjects\_scroll INTO @row, @subject;

PRINT 'Last line: [' + CAST(@row as varchar(4)) + '. ' + RTRIM(@subject) + ']';

FETCH RELATIVE -1 FROM course\_subjects\_scroll INTO @row, @subject;

PRINT 'Previous line: [' + CAST(@row as varchar(4)) + '. ' + RTRIM(@subject) + ']';

FETCH ABSOLUTE 2 FROM course\_subjects\_scroll INTO @row, @subject;

PRINT 'Second line: [' + CAST(@row as varchar(4)) + '. ' + RTRIM(@subject) + ']';

FETCH ABSOLUTE -2 FROM course\_subjects\_scroll INTO @row, @subject;

PRINT 'Second line from end: [' + CAST(@row as varchar(4)) + '. ' + RTRIM(@subject) + ']';

CLOSE course\_subjects\_scroll;

--#

GO

DECLARE @course varchar(30), @people\_count varchar(5), @department varchar(20), @cost varchar(15);

DECLARE course\_subjects\_currentof CURSOR LOCAL DYNAMIC SCROLL FOR

SELECT \*

FROM Courses

FOR UPDATE;

OPEN course\_subjects\_currentof;

SET nocount on;

FETCH course\_subjects\_currentof INTO @course, @people\_count, @department, @cost;

PRINT 'before: [' + @course + ' ' + @people\_count + ' ' + @department + ' ' + @cost + ']';

UPDATE Courses SET Courses.Peoples\_Count += 2 WHERE CURRENT OF course\_subjects\_currentof;

CLOSE course\_subjects\_currentof;

OPEN course\_subjects\_currentof;

SET nocount on;

FETCH course\_subjects\_currentof INTO @course, @people\_count, @department, @cost;

PRINT 'after: [' + @course + ' ' + @people\_count + ' ' + @department + ' ' + @cost + ']';

UPDATE Courses SET Courses.Peoples\_Count -= 2 WHERE CURRENT OF course\_subjects\_currentof;

CLOSE course\_subjects\_currentof;