

Лабораторная работа № 2 Использование операторов манипулирования данными в microsoft sql server	ФИО	Титов А.К.
	Группа	ИБТ 460
	Предмет	Построение СУБД
	Дата отчета	
	Оценка	
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Цель работы

Научиться использовать операторы манипулирования данными Select, Insert, Update, Delete.

Постановка задачи

Вариант	Список номеров упражнений												
15	5	9	15	19	25	29	35	39	45	49	55	59	65

Содержание работы

1. Создать с помощью приведенных операторов пример базы данных «Книжное дело», описанный в предыдущей лабораторной работе (если БД отсутствует на сервере).
2. С помощью операторов Insert создать программу в SQL Server Management Studio через «Создать запрос» для заполнения таблиц данными (по 3-5 записей).
3. С помощью оператора Select по заданиям выполнить запросы к БД.

Содержание отчета

Ход выполнения работы

Задание 5

Выбрать все поля из таблицы Publishing_house таким образом, что-бы в результате порядок столбцов был следующим: Publish, City, Code_publish

The screenshot shows the Microsoft SQL Server Management Studio interface. The query editor at the top contains the following SQL query:

```
SELECT Publish, City, Code_publish
FROM Publishing_house
```

The query has been executed, and the results are displayed in the 'Results' pane at the bottom. The results are as follows:

	Publish	City	Code_publish
1	Детская литература	Москва	1
2	Малыш	СПб	2
3	Наука	Москва	3
4	Смена	Барнаул	4
5	АСТ	Воронеж	5
6	Диалектика	Москва	6
7	Деагостини	Мадрид	7
8	Springer	New York	8
9	Elsiever	Amsterdam	9
10	Высшая школа	Яровславль	10
11	БХВ	СПб	12

The status bar at the bottom indicates that the query was successful, took 00:00:00 to execute, and returned 14 rows.

Задание 9

Выбрать из справочника поставщиков (таблица Deliveries) названия компаний, телефоны и ИНН (поля Name_company, Phone и INN), у которых название компании (поле Name_company) начинается с 'ОАО'

The screenshot shows the Microsoft SQL Server Management Studio interface. The main window displays a SQL query in a text editor:

```
SELECT Name_company, Phone, INN
FROM Deliveries
WHERE Name_company LIKE 'ОАО%'
```

The query is executed, and the Results pane shows the following table structure:

Name_company	Phone	INN
--------------	-------	-----

The status bar at the bottom indicates that the query was successful (green checkmark) and returned 0 rows. The status bar also shows the current file path: DESKTOP-KRUN6KM\SQL EXPRESS ... and the current database: DB_BOOKS.

Задание15

Вывести список названий книг (поле Title_book из таблицы Books) и количество экземпляров (поле Amount из таблицы Purchases), которые были закуплены в период с 12.03.2003 по 15.06.2003 (условие по полю Date_order из таблицы Purchases).

The screenshot shows the Microsoft SQL Server Management Studio interface. The query editor displays the following SQL query:

```
SELECT Books.Title_book, Purchases.Amount
FROM Books
JOIN Purchases ON Purchases.Code_book = Books.Code_book
WHERE Purchases.Date_order BETWEEN '03.12.2000' AND '06.15.2030'
```

The Results pane shows the following data:

	Title_book	Amount
1	Сказки	5
2	Solid State Physics	1
3	Сказки	1
4	Graphene flakes	1

The status bar at the bottom indicates: Query... | DESKTOP-KRUN6KM\SQLEXPRESS ... | DESKTOP-KRUN6KM\Alekse... | DB_BOOKS | 00:00:00 | 4 rows

Задание 19

Вывести список названий книг (поле Title_book) из таблицы Books, которые выпущены следующими издательствами: 'Питер-Софт', 'Альфа', 'Наука' (условие по полю Publish из таблицы Publishing_house).

The screenshot shows the Microsoft SQL Server Management Studio interface. The main window displays a SQL query in the 'Query Editor' pane. The query is as follows:

```
SELECT Books.Title_book, Publishing_house.Publish
FROM Books
JOIN Publishing_house ON Publishing_house.Code_publish = Books.Code_publish
WHERE Publishing_house.Publish IN ('Мальш', 'Альфа', 'Наука')
```

Below the query editor, the 'Results' pane shows the output of the query. It contains a table with two columns: 'Title_book' and 'Publish'. The table has 5 rows of data:

	Title_book	Publish
1	Мцыри	Наука
2	Маскарад	Мальш
3	Путешествие из Петербурга в Москву	Мальш
4	Сказки	Мальш
5	Сказки народов мира	Наука

The status bar at the bottom indicates that the query was executed successfully, returning 5 rows of data. The status bar also shows the current file name, server name, database name, and the current line, column, and character positions.

Задание 25

Выбрать коды авторов (поле Code_author), имена авторов (поле Name_author), названия соответствующих книг (поле Title_book), если код издательства (поле Code_Publish) находится в диапазоне от 10 до 25 и количество страниц (поле Pages) в книге больше 120.

The screenshot shows the Microsoft SQL Server Management Studio interface. The main window displays a SQL query in a file named '25.sql'. The query is as follows:

```
SELECT Authors.Code_author, Authors.name_author
FROM Authors
JOIN Books on Books.Code_author = Authors.Code_author
WHERE Books.Pages > 120 AND Books.Code_publish BETWEEN 5 AND 25
```

The query has been executed, and the results are displayed in the 'Results' tab at the bottom. The results show three rows of data:

	Code_author	name_author
1	5	СИДОРОВ С.М.
2	6	СТЕПАНОВ А.П.
3	3	ИВАНОВ С.В.

The status bar at the bottom indicates that the query was successful, and the results consist of 3 rows. The current cursor position is at line 4, column 57, character 57, in the 'INS' state.

Задание 29

Вывести список поставщиков (поле Name_company), которые поставляют книги издательства 'Питер' (условие по полю Publish).

The screenshot shows the Microsoft SQL Server Management Studio interface. The main window displays a SQL query in the 'Query Editor' tab, titled '29.sql - DESKTOP-KRUN6KM... \Ale...'. The query is as follows:

```
SELECT Deliveries.Name_company, Publishing_house.Publish
FROM Deliveries
JOIN Purchases on Purchases.Code_delivery = Deliveries.Code_delivery
JOIN Books on Books.Code_book = Purchases.Code_book
JOIN Publishing_house on Publishing_house.Code_publish = Books.Code_publish
WHERE Publishing_house.Publish = 'Малыш'
```

Below the query editor, the 'Results' tab is active, showing the output of the query. The results are displayed in a table with two columns: 'Name_company' and 'Publish'. The table contains two rows of data:

	Name_company	Publish
1	ИП Михайлов А.Р.	Малыш
2	Доставкин	Малыш

The status bar at the bottom of the window indicates that the query was executed successfully, showing 'Query ...', 'DESKTOP-KRUN6KM\SQLEXPRESS ...', 'DESKTOP-KRUN6KM\Alekse...', 'DB_BOOKS', '00:00:00', and '2 rows'.

Задание 35

Вывести общее количество всех поставок (использовать любое поле из таблицы Purchases), выполненных в период с 01.01.2003 по 01.02.2003 (условие по полю Date_order).

The screenshot shows the Microsoft SQL Server Management Studio interface. The main window displays a SQL query in a file named '35.sql'. The query is as follows:

```
DECLARE @PurchasesCounts TABLE (
    Count int
);

INSERT INTO @PurchasesCounts
SELECT Purchases.Amount
FROM Purchases
WHERE Date_order BETWEEN '01.01.2003' AND '02.01.2015'

SELECT SUM(Count) FROM @PurchasesCounts
```

The query has been executed, and the results are shown in the 'Results' pane. The results pane displays a single row with the value 8.

(No column name)
8

The status bar at the bottom indicates that the query was successful, and the results pane shows 1 row.

Задание 39

Вывести название книги (поле Title_book), суммарную стоимость партии одноименных книг (использовать поля Amount и Cost), поместив в результат в поле с названием Itogo, в поставках за период с 01.01.2002 по 01.06.2002 (условие по полю Date_order).

The screenshot shows the Microsoft SQL Server Management Studio interface. The query editor displays the following SQL code:

```
SELECT Books.Title_book, SUM(Purchases.Cost * Purchases.Amount) as Itogo
FROM Books
INNER JOIN Purchases on Purchases.Code_book = Books.Code_book
WHERE Purchases.Date_order BETWEEN '01.01.2000' AND '06.01.2015'
GROUP BY Books.Title_book
```

The Results pane shows the output of the query:

	Title_book	Itogo
1	Graphene flakes	600
2	Solid State Physics	567
3	Сказки	1934

The status bar at the bottom indicates the query was executed successfully, showing the file path, server name (DESKTOP-KRUN6KM\SQLEXPRESS), database (DB_BOOKS), execution time (00:00:00), and the number of rows returned (3 rows).

Задание 45

Вывести список названий компаний-поставщиков (поле Name_company) и названия книг (поле Title_book), которые они поставили.

The screenshot shows the Microsoft SQL Server Management Studio interface. The main window displays a SQL query in a file named '45.sql'. The query is as follows:

```
DECLARE @CompaniesNames TABLE (  
    CompanyName char(20),  
    TitleBook char(20)  
);  
  
INSERT @CompaniesNames  
SELECT Deliveries.Name_company, Books.Title_book  
FROM Deliveries  
JOIN Purchases on Deliveries.Code_delivery = Purchases.Code_delivery  
JOIN Books on Purchases.Code_book = Books.Code_book  
  
select *  
FROM @CompaniesNames
```

Below the query editor, the 'Results' tab is active, showing a table with 4 rows of data:

	CompanyName	TitleBook
1	ИП Михайлов А.Р.	Сказки
2	Посылка	Solid State Physics
3	Доставкин	Сказки
4	ИП Михайлов А.Р.	Graphene flakes

The status bar at the bottom indicates 'Item(s) Saved', 'Ln 12', 'Col 9', 'Ch 9', and 'INS'. The bottom right corner shows '00:00:00' and '4 rows'.

Задание 49

Вывести список названий компаний-поставщиков (поле Name_company) и поместить результат в курсор с названием Temp2.

The screenshot shows the Microsoft SQL Server Management Studio interface. The main window displays a T-SQL query in a file named '49.sql'. The query is designed to create a cursor, fetch data from the 'Deliveries' table, and print the company names. The 'Messages' pane at the bottom shows the output of the query, listing various company names. The status bar at the bottom indicates that the query was executed successfully, with 0 rows returned.

```
DECLARE CompaniesNamesCursor CURSOR FOR (select Deliveries.Name_company  
DECLARE @CompanyName CHAR(20)  
  
OPEN CompaniesNamesCursor  
WHILE @@FETCH_STATUS = 0  
BEGIN  
    FETCH NEXT FROM CompaniesNamesCursor INTO @CompanyName  
    PRINT @CompanyName  
END  
CLOSE CompaniesNamesCursor  
DEALLOCATE CompaniesNamesCursor
```

Messages

ИП Михайлов А.Р.
Главдоставка
Доставкин
Промдоставка
Деловые перевозки
Деловая почта
Доставка книг
Посылка
Северный полюс
Северный полюс

Query... | DESKTOP-KRUN6KM\SQLEXPRESS ... | DESKTOP-KRUN6KM\Alekse... | DB_BOOKS | 00:00:00 | 0 rows

Item(s) Saved | Ln 11 | Col 32 | Ch 32 | INS

Задание 55

Вывести список авторов (поле Name_author), книг которых нет в таблице Books.

The screenshot shows the Microsoft SQL Server Management Studio interface. The main window displays a SQL query in a script editor. The query is as follows:

```
SELECT Authors.name_author
FROM Books
JOIN Authors on Books.Code_author = Authors.Code_author
WHERE Authors.Code_author NOT IN (SELECT Books.Code_author)
```

The query is executed, and the results are shown in the 'Results' tab. The results pane displays a single column header 'name_author' and no data rows, indicating that no authors were found whose books are not in the 'Books' table.

The status bar at the bottom indicates that the query was successful (green checkmark), executed on the 'DB_BOOKS' database, and returned 0 rows.

Задание 59

Увеличить в таблице Purchases цену (поле Cost) на 20 процентов, если заказы были оформлены в течение последнего месяца (условие по полю Date_order).

The screenshot shows the Microsoft SQL Server Management Studio interface. The main window displays a SQL query in a file named '59.sql'. The query is as follows:

```
PRINT 'Before Costs'
SELECT Cost FROM Purchases

UPDATE Purchases
SET Cost=Cost*1.2
WHERE Date_order > '01.01.2010'

PRINT 'After Costs'
Select Cost FROM Purchases
```

Below the query editor, the 'Results' tab is active, showing two result sets. The first result set shows the 'Cost' values before the update, and the second result set shows the 'Cost' values after the update.

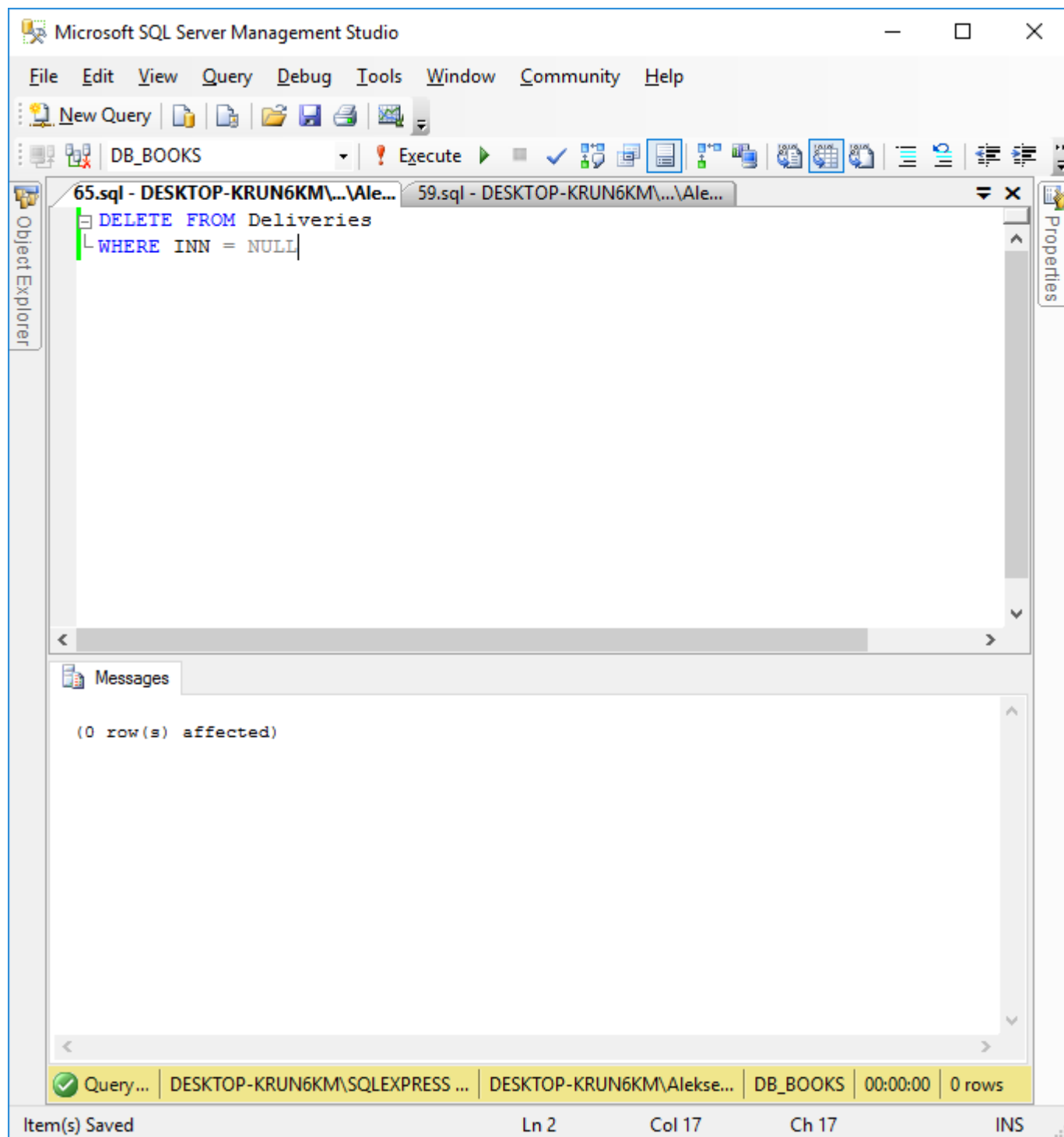
	Cost
1	340
2	567
3	234
4	600

	Cost
1	408
2	680.4
3	280.8
4	720

The status bar at the bottom indicates that the query was successful, the database is 'DB_BOOKS', and 8 rows were affected.

Задание 65

Удалить из таблицы Deliveries все записи, у которых не указан ИНН (поле INN пустое).



Выводы

Были использованы базовые операторы языка SQL: SELECT, INSERT, UPDATE, DELETE.

Также были задействованы возможности T_SQL, такие как временные таблицы