

Databases Laboratory Work № 3

The Creation and Maintenance of Databases

Prerequisites:

SQL Server 2017, SQL Server Management Studio 2017

Objectives:

- Study Chapter 3;
- Complete the practical tasks.

Tasks:

1. Which of the following numbers, presented below, could be introduced in the field of DECIMAL(4,1) type?
a)16,2; b)116,2; c)16,21; d)1116,2; e)1116,21;
2. Let [Col1] from the table below be of INT type and [Col2] of DECIMAL(2,1)

| Tabel | Col1 | Col2 | Col3 |
|-------|------|------|------|
| | 1 | 1.0 | |
| | 2 | 1.0 | |

What type of data should be in [Col3] to store the result of the next operation:
Col1*Col2.

3. Create a database called **universitatea** with default properties. In this database, create 2 tables (**grupe, discipline**), whose schemas are defined in section 3.3 of the chapter.
4. Insert in the respective tables in **universitatea** database the provided data.

Implementation:

At the first task, the answer is **(b)** since DECIMAL(4,1) means that the number is 4 digits and only one digit must be past the decimal point.

At the second task, the answer is DECIMAL(2,1) since the DECIMAL data type is set higher than the INT-related data types in the order of precedence.

The third task was about creating a database called **universitatea** and 2 tables accompanying it, (**grupe, discipline**). To do this we access the recently created database, go to Tables and select the "New Table.." option.

| | Column Name | Data Type | Allow Nulls |
|----|----------------|--------------|-------------------------------------|
| ▶🔑 | Id_Grupa | smallint | <input type="checkbox"/> |
| | Cod_Grupa | char(6) | <input type="checkbox"/> |
| | Specialitate | varchar(255) | <input checked="" type="checkbox"/> |
| | Nume_Facultate | varchar(255) | <input checked="" type="checkbox"/> |
| | | | <input type="checkbox"/> |

| | Column Name | Data Type | Allow Nulls |
|----|------------------------|--------------|-------------------------------------|
| ▶🔑 | Id_Disciplina | int | <input type="checkbox"/> |
| | Disciplina | varchar(255) | <input type="checkbox"/> |
| | Nr_ore_plan_disciplina | smallint | <input checked="" type="checkbox"/> |
| | | | <input type="checkbox"/> |

The fourth task was about completing the created tables with the given information, to do this you have to access the tables and select the "Edit the top 200 rows" option.

| | Id_Disciplina | Disciplina | Nr_ore_plan_di... |
|---|---------------|---------------------|-------------------|
| ► | 100 | Sisteme de ope... | 60 |
| | 101 | Programarea ca... | 60 |
| | 102 | Informatica apli... | 46 |
| | 103 | Sisteme de calcu | 46 |
| | 104 | Asamblare si de... | 60 |
| | 105 | Cercetari ope... | 76 |
| | 106 | Programare WEB | 46 |
| | 107 | Baze de date | 60 |
| | 108 | Structuri de dat... | 76 |
| | 109 | Rețele inomatice | 46 |
| | 110 | Matematica dis... | 60 |
| | 111 | Modelarea siste... | 46 |
| | 112 | Limbaje evaluat... | 76 |
| | 113 | Programarea a... | 60 |
| | 114 | Tehnologii de p... | 46 |
| | 115 | Programarea d... | 46 |
| | 116 | Proiectarea sist... | 60 |
| | 117 | Practica de lice... | 80 |
| | 118 | Practica de pro... | 80 |
| | 119 | Integrarea infor... | 20 |
| | 120 | Programe Aplic... | 46 |
| * | NULL | NULL | NULL |

| | Id_Grupa | Cod_Grupa | Specialitate | Nume_Facultate |
|---|----------|-----------|---------------------|---------------------|
| ► | 1 | CIB171 | Cibernetica | Informatica si C... |
| | 2 | INF171 | Informatica | Informatica si C... |
| | 3 | TI171 | Tehnologii Infor... | Informatica si C... |
| * | NULL | NULL | NULL | NULL |

Conclusion:

During this laboratory work I became familiar with tables; how to create them, their configurations and properties. I found out about the data types in the SQL Server system and their hierarchy.