**Practical work number 1**

**"Creating a simple database in Microsoft Access 2010**

**Entering and sorting records. "**

*Objective:*

• learn how to create a table with the help of templates and tables Designer tables;

• Provide the correct input of data into the table;

• learn how to perform the sorting of records in the table.

**Task 1. Create a blank database using spreadsheet templates. Operating procedure**

1. Start Microsoft Access database program. To do this: Start - All Programs *– Microsoft office – Microsoft office Access 201).*
2. You will see a window similar to the following (see Figure 1):
3. Select the new database. Then enter the name of the file-basis workers and then click Create. You will see a window similar to the following (see Figure 2).
4. Choose Create - Application Parts. Templates - Contact (Figure 3).
5. Contact table appears in the left pane. Double-click the mouse on the name of the table. You will have the entire table with the Contact header (Figure 3).
6. Rename the field ID, state, country or region in the following new field names, respectively: Code(*Код), Republic (Республика), Country( Страна).*
7. All fields after the field, remove the Country from the context menu, the command Delete field.
8. Fill it with the following data (Table 1).



Table 1

1. You have to get a table as shown (Figure 4). Save the table ()under the name of the *Employee.*
2. In this table, sort the column "Organization" (“*Организация*” ) in alphabetical order (Main – ).

**Task 2. Create a blank database using the Table Designer. Operating procedure**

1. 1. Create a table named "Student" using Table Designer.
2. To do this, run the following command: Create - Table Designer.
3. You will see a window (Figure 5):
4. 2. Fill in the Name field the following data (column headings): CodeStudent, Last Name, First Name, Address, Phone Number, Specialty, respectively, the data types for the fields: KodStudent - COUNTER, Last Name, First Name, Title, Address, Specialty - text, phone number - numeric.
5. You should end up as shown (Figure 6):
6. Next click to save () и and name the table "Student". It automatically prompts to create a key field, click the button YES (the field will CodeStudent key field)

).

7. Then with double click on the left mouse button open the left to the Student table. You will see a table student to fill in Figure 7).

8. Fill in the table the following data (Table 2), and save it.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CodeStudent** | **Last name** | **First name** | **Patronymic** | **Address** | **Phone number** | **Specialty** |
| 1 | Иванов | Сергей | Александрович | г. Новороссийск | 457896 | технолог |
| 2 | Петров | Сергей | Петрович | г. Москва | 7458962 | технолог |
| 3 | Гаврелеева | Ольга | Ивановна | г. Москва | 3698521 | бухгалтер |
| 4 | Соколова | Инна | Олеговна | г. Новороссийск | 852967 | бухгалтер |
| 5 | Мухина | Олеся | Петровна | г. Москва | 8625471 | технолог |
| 6 | Апареева | Анна | Романовна | г. Люберцы | 748596 | технолог |
| 7 | Глинкина | Дина | Евгеньевна | г. Люберцы | 919597 | технолог |
| 8 | Сорина | Ольга | Сергеевна | г. Москва | 9191954 | бухгалтер |
|  |  |  |  |  |  |  |

Table 2

7. Show the results to the teacher.

**Practical work number 2.**

**Creating a database consisting of two tables**

*Objective:*

1. Design of the database structure. Create a version of the database with two tables: "List", "and" Groups ".

2. Construction of empty tables in the database.

3. Create a database schema. In this case, the tables are connected one-to-many. This means that in the table "Group", each value associated fields can occur only once, and in the table "List" - several times (several people can be from the same group). Ties should be installed at the empty tables.

4. Enter data in the table. Create a form for data entry.

*5.* ***Operating procedure.***

**Task 1. Create a database - Training facilities.**

1. Start Microsoft Access database program. To do this: Start - All Programs - Microsoft office - Microsoft office Access 2010.

2. In front of you opens the following form of window (Figure 8):

3. Select the new database. Then enter the file name - Training facilities and click Create. You will see a window similar to the following (see Figure 9): Training facilities.

**Task 2. Create a table "Groups".**

1. Create a table named "Groups" with the Table Designer. To do this, run the following command: Create - Table Designer.

2. Fill in the Name field the following data (column headers): Study group, teacher and therefore the data type for them: Study group - numeric, Teacher - TEXT. Make the "Study Group" key by placing the cursor on the name field and click on the button Key field**.**

3. Save the table as " Group" by clicking on the button Save .

4. Close the table.

**Task 3. Creating the table "List".**

1. Create a table named "List" using Table Designer. To do this, run the following command: Create - Table Designer.

2. Fill in the Name field the following data (column headers): code, name, patronymic, year of birth, class, Study Group. Choose from the drop-down list of numeric data type for the field "Code". Make the "Code" key, moving the cursor on the name field and click on the button Key field . Type of data fields "Name", "Name", "Middle" - text, the fields "Year of Birth", "School", "class" - numeric. Set the field's data type "training group" number. General field properties do not change. Choose Substitution tab, type control - combo box, the source lines - Groups. Get the values ​​of the elements, as shown in the figure (Figure 10).

3. Save the table as "List" by clicking on the button Save .

4. Close the table.

**Task 4. Create a data scheme.**

1. In the ribbon menu choose the tab Working with databases , click the data Scheme. Appears window data Scheme.

2. In the window that appears, Adding a Table select a table "Groups" and click the button Add, select the table "List" and then click the button Add. In the data scheme will be conditional form of these tables. Close window Adding table.

3. "List" table Enlarge the window so that you can see all the fields.

4. Position the mouse cursor over the field name "Study Group" in the table "Group" and, without releasing the mouse button, drag the mouse cursor to the "Study Group", "List" table. Release the mouse button. The dialog box Change Association, represented in the figure (Figure 11).

5. Select Ensuring data integrity. It can not be done if the field types "Study Group" set is not the same.

6. Check the cascade update related fields. This will lead to the fact that when you change the group number in the table "Group" automatically changes the number in the "List" table.

7. Check the cascade delete relationships. This will lead to the fact that when you delete a record with the number of groups "Groups" table will delete all records from the table "List", in which there were corresponding group numbers.

8. Click Create. You will see the connection, "one-to-many". The schema is shown in Figure (Figure 12).

9. Close the chart data by clicking the button in the upper right corner of the window  and answered in the affirmative to the question of data retention scheme.

**Task 5. Fill the table "Group" with values.**

**1**. Open the Table "Groups" in the mode Table.

2. Fill it records from table 1.

Table 1

|  |  |
| --- | --- |
| **Study Group** | **Teacher** |
| 101 | Smirnova Z.V |
| 102 | Vildanova R.SH. |
| 103 | Zaiseva S.A |
| 104 | Zazulina Z.A |
| 105 | Druk N.N |

**Task 6. Create a form for data entry.**

1. In the window Database, select the name of the table List, and then click Create - Form.

2. Appears blank form of input, where shown in the figure (Figure 13).

Fill in the data form shown in Table 2.

Table 2.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Code | Last Name | First Name | Patronymic | Year of birth | School | Class | Study Group |
| 1 | Chernova | Natalya | Alekseevna | 2001 | 5 | 9 | 101 |
| 2 | Kulikov | Кlim | Alekseevich | 1999 | 2 | 10 | 103 |
| 3 | Аrhipov | Victor | Аleksandrovich | 2000 | 5 | 9 | 101 |
| 4 | Barankova | Аleksandra | Nikolaevna | 1998 | 5 | 11 | 104 |
| 5 | Novoselov | Aleksei | Ivanovich | 2000 | 3 | 9 | 105 |

1. Save your entries. Name form - List. Close the form.

2. Go to the window Table. Open the table List. Make sure that in the table there are new entries.

3. By clicking on the button Save to save the current table.

4. Close the table.

**7. Check the Target cascade update related fields.**

1. Open table the "Group".

2. Correct the number of study groups at 201, 202, 203, 204, 205. Save the table.

3. Open the table "List". Make sure that the value of the field "Study Group" changed. Close the table "List".

**Task 8. Control of cascade delete related fields.**

1. Open table the "Group".

2. Delete the first record (Select the first row, call the context menu with right-click of mouse and select Delete entry).

3. Answer yes to the removal request. Close the table "Groups".

4. Open the table "List". Make sure that disappeared from the record group 201 number.

Present to teacher: table Groups, the table List on the screen, List form.

**Task 9. Closing the Access program.**

1. Choose File - Exit.

2. If you are editing in the database, you are asked to save changes. Answer in the affirmative.

**Practical work №3**

**Topic: Creating a query to the final database.**

Objective:

• learn how to create simple and complex queries to the final database.

**Task 1. Opening of the database produced in the last lesson.**

1. In the folder, open the file Database of employees for lessons in your personal folder.
2. You will see a window with the main elements of the database. The database should be two tables: Employee and Student.

**Task 2. Create a select query.**

3. Choose Create - Query Builder.

4. In the Table dialog box, select from the list the name of the student table, click the button Add (Figure 14).

5. Complete the selection by clicking the button Close. You will be able to select the fields from the table "Student". To do this, double click on the name field, or drag and drop the field names in the cage request.

6. Create a phonebook for all students whose last names begin with the letter S. To do this, in the selection of write condition Condition Like "C \*" (Figure 15) :.

7. Save the query by clicking the button Save. Enter the query name phone book and click on the button OK.

8. Click Run for the submission of the request. Close the query.

9. Make sure that the received request by clicking on the query name in the phone book on the left window, all Access objects. Close the table.

10. Create a request for a sample of those students, who came from Moscow or Lyubertsy.

11. To do this, click Create Centre the instrument - Query Builder.

12. In the resulting dialog box, add a table from the list, select the name of the student table, click the button Add (Figure 14).

13. Complete the selection by clicking the button Close. You will be able to select the fields from the table "Student". To do this, double click on the name field, or drag and drop the field names in the cage request.

14. In the selection condition for the write conditions Address field, as shown in the figure (Figure 16):

15. Save the query by clicking the button Save. Enter the name of the query Address and click OK.

16. Click Run to the submission of the request. Close the query.

**Separate task.**

1. Make a request for a sample of those students who name - Olga.

2. Make a request for a sample of workers' names that begin with the letter P, using the table Employee.

3. Make a request for a sample of all students who are trained by special technology.

4. Make a request for a sample of employees of organizations that work on the engineer or accountant.

5. Show the results to teacher.

**Task 3. Closing the Access program.**

1. Choose File - Exit.

2. If you are editing in the database, you are asked to save changes. Answer in the affirmative.