**Discipline: Information and communication technologies**

**Modular task 2**

**Tasks**

1. Consider the relationship between computer, telecommuting, and multimedia technologies. Attach your answer as a diagram.
2. Suggest a topic and questions for the seminar “Computer Learning Technologies”.
3. Consider independently the period of development of informatization of education in your time (choose the period yourself).
4. Consider the stages of development of distance educational technologies using online information resources (specify the address of the material in detail) and periodicals.
5. Prepare a presentation on the topic “ Computer literacy and information culture of modern youth ”

**Perform tasks on converting y from one number system to another**

*Task 1 .* Convert the number 1D5(16) to the octal number system.
*Task 2 .* Convert the number 2D5(16) to the octal number system.
*Task 3 .* Convert the number 25(8) to hexadecimal number system.
*Task 4 .* Convert the number 73(8) to hexadecimal number system.
*Task 5 .* Convert the binary number 1101101 to the decimal number system.
*Task 6 .* Convert the binary number 1110001 to the decimal number system.

**Practical work**

***Working with the query wizard and filter in databases.***

**Goal:** to gain an understanding of the technology for creating databases.

**Objectives:** mastering techniques for working with a ready-made database to create simple and complex queries and reports.

**Guidelines:**

Filters - sets the criterion for selecting data from one table.
Create and apply a filter:

* + switch to table mode;
	+ <Records> <Change filter>;
	+ A list of table fields is displayed at the top of the window - select the ones you need by double-clicking;
	+ enter selection conditions at the bottom of the window;
	+ apply filter <Records> <Apply filter> or .

To cancel or remove a filter means to show all records: <Records> <Show all records>.
Queries - the ability to use relationships between tables to obtain information from two or more tables.
Creating queries:

* + select the <Query> tab ( Query object), <Create>
	+ select the creation method (better Constructor), <'OK>;
	+ in the Add table window, select the desired table; click <Add>, <Close>;
	+ select from the table the fields that need to be reflected in the query (double-click on the field name);
	+ In the “Selection conditions” line, enter specific data by clicking the pointer under the name of the field for which the condition is being set.
	+ To submit a request, click on the button
	+ save request.

Generating a report:

* + <Reports> button, <Create> button;
	+ select the type of report (for example, column), select the basis for creating the report (query).

**Tasks:**

1. Create a database "ATHLETE.

*Table structure:*

|  |  |  |  |
| --- | --- | --- | --- |
| ***Field name*** | ***Type*** | ***Size*** | ***Description*** |
| Surname | Text | thirty | Last name and first name of the athlete |
| A country | Text | 20 | The name of the country |
| Kind of sport | Text | 25 | Name of sport |
| Place | Whole | 2 | Place occupied by the athlete |

*DB table:*

|  |  |  |  |
| --- | --- | --- | --- |
| ***Surname*** | ***A country*** | ***Kind of sport*** | ***Place*** |
| Sergei Prokhorov | Russia | Athletics | 3 |
| Andreas Gope | Germany | Gymnastics | 4 |
| Frank Douglas | USA | Boxing | 1 |
| Grigory Semchenko | Ukraine | Athletics | 2 |
| James Kurt | USA | Gymnastics | 5 |
| Olga Rozova | Russia | Gymnastics | 1 |
| Anna Smirnova | Russia | Swimming | 4 |
| Ivan Radek | Czech | Athletics | 1 |
| Arnold Heinz | Germany | Swimming | 1 |
| Oksana Podgornaya | Ukraine | Gymnastics | 2 |
| Pierre Godard | France | Athletics | 5 |
| Lucia Santos | Spain | Athletics | 6 |
| Irina Popova | Russia | Athletics | 2 |
| Michael Stone | USA | Boxing | 2 |
| John Wallace | USA | Athletics | 1 |
| Gregory McCain | USA | Athletics | 4 |
| Jeanne Brown | Great Britain | Athletics | 5 |
| Sergey Fedorchuk | Ukraine | Swimming | 7 |
| Georgy Gorgadze | Georgia | Gymnastics | 6 |
| Rose McDoul | Great Britain | Gymnastics | 8 |

1. Perform the following tasks using the created database.
* Display the fields: “ last name”,

"kind of sport",

"place".

* Remove information about athletes James Kurt and Anna Smirnova.
* Enter 5 new entries about athletes.
* Formulate queries, after applying which information about the following athletes will be displayed on the screen: from the USA;

 took 2nd place;

swimming;

* Display the fields “last name” and “country” for athletes from Russia.
* Display the “last name” and “place” fields for US athletes who took 1st place.
* Replace the country name “Germany” for all athletes from Germany.
* Fix Michael Stone's place to 3rd , and James Kurt's sport to boxing .
* Remove athletes who took 4th place in athletics .
* Add an “order of speaking” field, defining its type and width.

**Tasks for independent completion:**

* Create a structure for the “Student” table containing the following fields:

*last name, first name, school, class, date of birth, weight.*

* height ” field to the created structure after the “date of birth” field .
* Fill in information about 10 students .
1. **Control questions:**
2. What is a request?
3. What are the elements of the query designer window?
4. What is a request form?
5. Where are the selection criteria for a query written? How to remove a table from a query?
6. How to remove a field from a request? (post screenshots in the program)
7. List the main operators used in the query (response in table form).
8. What is a database (DB)?
9. What is a database management system (DBMS)?
10. What is the difference Microsoft Excel from Microsoft Access ?
11. MicrosoftAccess database objects do you know?
12. Which object in the database is the main one?

**Test tasks:**

Question: What is **QBE** ?

A. Database dialog box.

B. Programming language.

C. Graphical version of the **SQL language** , sample request form.

Question: What is the result of a query?

**SELECTClint Code , Order Code**

**FROM Clients;**

A. Dataset

B. Table with two columns.

C. A table with two columnsClintCode **and** OrderCode **selected** from the original **Customers table**

**You need to justify and prove your answer.**