CREATING THE TESTING MODULE "BASICS OF COMPUTER SCIENCE" BY THE DELPHI LANGUAGE

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Annotation. The paper presents the development of a testing module designed to prepare students of the “Applied Mathematics and Computer Science” direction for computer testing in the discipline “Basics of Computer Science”. The work is done in the form of a program with the ability to test the fixed knowledge with the help of several test options in 2 modes: a demonstration module and a control test. The testing program can be used regardless of the connection to the Internet, both in an educational institution and remotely, in preparation for computer testing in a discipline.

Keywords: testing program, computer science, computer testing.

СОЗДАНИЕ ТЕСТИРУЮЩЕГО МОДУЛЯ «ОСНОВЫ ИНФОРМАТИКИ» С ПОМОЩЬЮ ЯЗЫКА DELPHI

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Аннотация. В работе представлена разработка тестирующего модуля, предназначенного для подготовки студентов направления «Прикладная математика и информатика» к компьютерному тестированию по дисциплине «Основы информатики». Работа выполнена в виде программы с возможностью проверить закрепленные знания с помощью нескольких вариантов тестов в 2-х режимах: демонстрационного модуля и контрольного тестирования. Тестирующая программа может использоваться независимо от подключения к сети Интернет, как в учебном заведении, так и дистанционно, при подготовке к компьютерному тестированию по дисциплине.
The relevance of this work is due to the need to create elements of the intra-University system of assessing the quality of training of students on the basis of test results.

The aim of the work is to create a testing program for the current and midterm control of students.

The main task is to give students the opportunity to practice in the performance of those types of tasks that are included in the mandatory minimum content of the discipline of subject training in accordance with Federal state educational standards. Of course, the main preparation of students for testing is carried out during the entire period of training in this discipline, but from the intensive preparation of students for testing at the final stage of training depends very much.

To create a testing program, the analysis of existing programs for creating tests [8], as well as special literature on programming in the Delphi language [1] was carried out.

To create a test base was developed educational and methodical literature on various sections of the disciplines "Basic of Computer Science", "Computer Science" [2, 3, 4, 5, 6, 7].

The developed program allows you to objectively test and evaluate the knowledge of students, and can also be used to prepare for the final exam in the discipline.

The created program has the following features:
- tests are created and edited in the program itself;
- the program has an intuitive interface;
- testing attempts are not limited;
- test execution time limit;
- the program provides the fastest results of processing the answers given by the tested;
home use of the program for the purpose of preparation or control of knowledge on discipline is provided: the student opens the testing module and passes the offered test.

The advantages of the program are the following criteria:

- high degree of reliability;
- a high degree of stability;
- easy and intuitive interface;
- outdoor code, easy to change;
- reliable processing algorithms.

The program is developed and executed in the object-visual programming environment Delphi 7 [1].

The developed program has 2 modes of operation:

- demo version with solution;
- mode control testing of several proposed for the test.

The program automatically calculates the correct answers and the percentage of points scored. All available questions are in separate text documents, divided by themes and options.

There are two types of data in the program:

- input-answers to test questions;
- weekend is the data that is directly displayed on the screen or go to print.

All output data is stored in the executable file of the program, the data is loaded into memory one by one, the number of correct answers and their percentage is displayed when passing the test. The user receives the output after passing the test.

To run the application, you must run the Tester file.exe. At startup, the application window looks like (Fig. 1):
At the bottom of the program there is a line "Demo version with a solution", clicking on which will open a window with sample questions (consisting of 40 questions) and answers to them (Fig. 2). With the pointer located at the bottom of the window, we can easily move around the issues: going back or following forward.
The main part of the program also offers a drop-down list consisting of five test options divided into topics.

When you select any test option, a window opens (Fig. 3):

![Figure 3. Passing the test](image)

During the period of this program will be given 60 minutes and 4 answers. When you complete the last question at the bottom of the window the button will appear "Complete testing" which, when pressed, will open a window with the test result.

This test does not limit testing attempts (Fig. 4).

![Figure 4. Test results](image)
There is only one type of input in the program – the data in which the user passes the answer number in the test.

After the user has passed the test, he receives an estimate, which consists of the number of correct answers – this is 1 type of output.

If the student does not have time to pass the entire test in the allotted time, a notification appears at the end of the time and the test is completed (Fig. 5).

![Figure 5. End of time notification](image)

In the program, in compliance with the conditions of a favorable combination of background and text textures, an intuitive interface is developed. This greatly facilitates the use of the program and allows you to use it without special manuals.

The created testing program is fully consistent with its purpose and can be used to check the residual knowledge of students in the relevant discipline, and to prepare for exams at home. This program can be used for distance learning.
References


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