SCHOOL AUTOMATION SYSTEM

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CONTENTS

SUMMARY

School Automation System is a flexible and functional automation system that gathers all programs prepared for universities under one roof. In this automation system, the user can log into the system according to their type and easily access any information such as announcements, information, documents.

The manager who has access to the system, i.e. user name and password, can easily add, edit, delete and list students with this system. They can also access general information and add general announcements about the university.

The teacher with permission to enter the system can enter the student's exam results, homework, absenteeism information. They will be able to access department lectures, announcements and student information.

The system has the option to register and login for the student. Access to information and university announcements in the student menü.

ABSTRACT

The biggest aim of the system is to increase the cooperation between student-teacher-administrator, to prevent waste of time and to increase the quality in universities. In addition, the system is very easy to use. In this system, errors that may occur can be minimized and if a problem is encountered, it will be easy to fix.

1. INTRODUCTION

Access to many data has been made easy and the quality of education has been increased with this developed automation system. As seen in Figure 1, there are 3 different user options at the entrance of the automation system. The person who wants to log into the system must choose the appropriate user option.

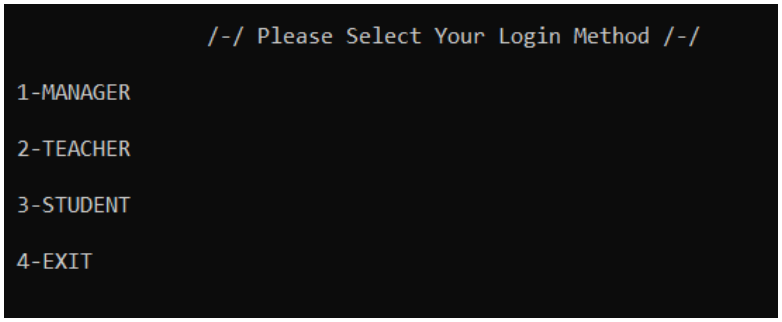

Figure 1 Login Method Screen

If the person who chooses the user option in this section is an manager or a teacher, the user can log in with a username and password, as in Figure 1.1.

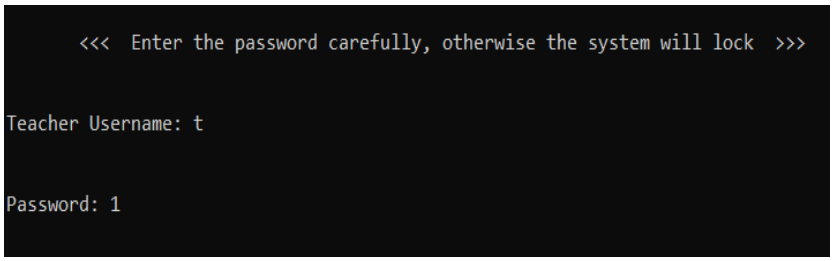

Figure 1.1 Manager or Teacher Login the System

If the user is a student, there are 2 options for the user to log into the system, as in Figure 1.2.

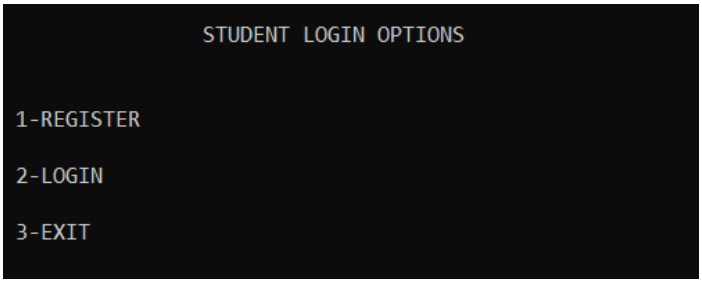

Figure 1.2 Student Login Options

2. BASIC INFORMATIONS

The codes written within the scope of the project were written using the IDE named Dev-C ++ and TDM-GCC Compiler was used as the compiler. Text file with .txt extension is used to write and read the data in the system.

3. MAIN PART

3.1. WRITING AND READING FILE

3.1.1. Writing File

First of all, the file name to be created is determined by using a pointer (FILE * filename). The purpose here is to go to the address of the .txt text file containing the file, and to write the data required to be entered into the text file.

This is done with fopen (". txt", "a +"). A name is set for the text file. The extension of this text file is txt. "a +" opens for addition to the file. In other words, if there is no file, it will be created, if there is, it will be written to the end of the existing information.

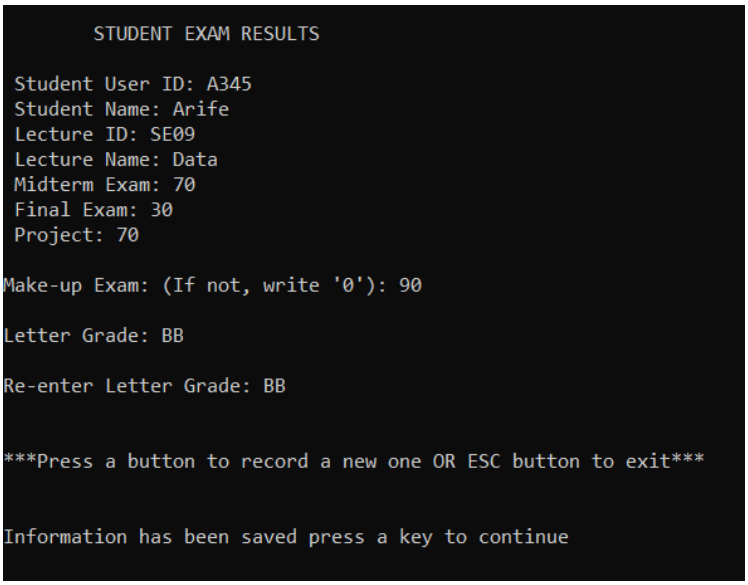

Figure 3.1.1 Entering Student Exam Result (Teacher Menu)

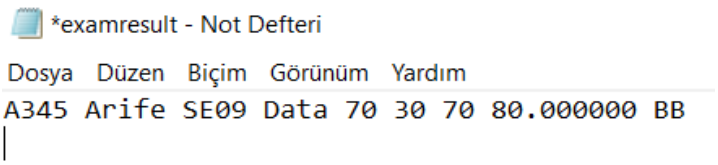

Figure 3.1 Student Exam Result in txt file (examresult.txt)

3.1.2. Reading File

The filename was specified using a pointer (FILE * filename). The file is then opened and the .txt text file inside is created.

This is done with fopen (". txt", "r").

For the text file, the name specified in the writing process is entered. With "r", the data previously entered in the text file is read.

This operation is done with fscanf (FILE * stream, const char * format).

Here;

stream: It is the FILE stream pointer that indicates the file stream from which the values will be read.

format: It is a character string containing format descriptors to transfer the values to be read from the file stream.

```
      EXAM RESULTS

Student User ID:A345

UserId | Name | CourseId | Course Name | Midterm | Final | Project | Average | Letter Grade
--------------------------------------------------------------------------------------------

  A345   Arife   SE09       Data          70       30      70         80.000000        BB
```

Figure 3.1.2 Student Exam Result (Student Menu)

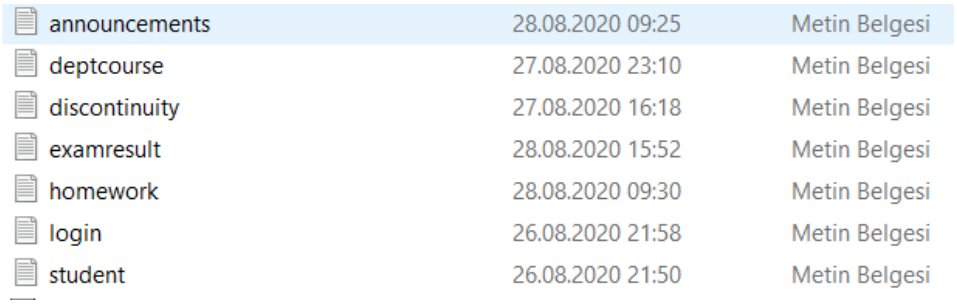

Figure 3.1.2.1 Other txt Files

3.2. FILE OPERATIONS

3.2.1. Stream

Stream is a logical interface that you can use to access a file.

3.2.1.1. Standard Streams

Through these text streams, the program can access devices connected to the computer (such as screen, keyboard, printer ...) just like a file:

stdin: Reads data from the keyboard.

stdout: Sends data to the screen.

3.2.2. File Operation Functions

fopen () : Opens a file.

fclose () : Closes a file.

fputc () and putc () : Write a character to the file.

fgetc () and getc () : Read a character from the file.

fprintf () : Writes the structured data to the file.

fscanf () : Reads the structured data from the file.

feof () : Returns a correct value when the file ends.

remove () : Deletes the file.

rename() : It renames a file or directory from oldname to newname

fflush () : Deletes the buffer.

3.3. FILE STRUCTURES

Structure is a user-defined data type in C. A structure creates a data type that can possibly be used to group different types of items into one type.The keyword 'struct' is used to create a structure. In addition, the structure can be easily accessed from functions or loops created by assigning names to the structure.

3.4. FUNCTIONING OF THE PROGRAM

3.4.1. Login the System

As the first step of the program, there are 3 different user login options in the automation system. From these user login options, a predetermined user name and password have been defined for the manager and teacher, that is, specified in the code, to log into the system.

For the manager;

Manager Username = a

Password = 1

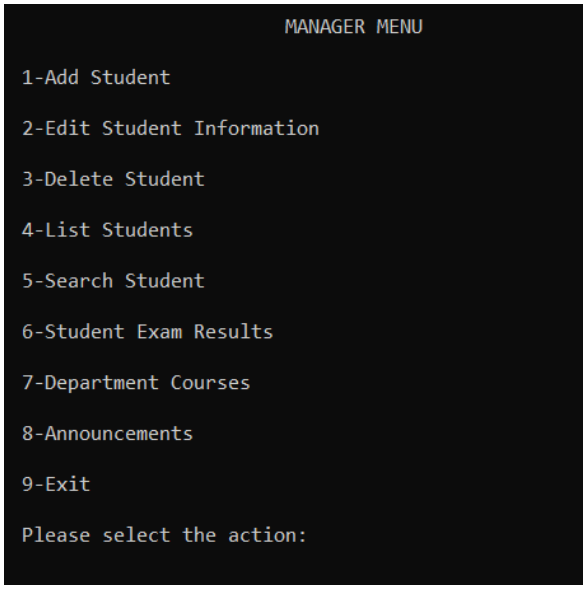

Figure 3.4. Manager Menu

For the teacher;

Teacher Username = t

Password = 1

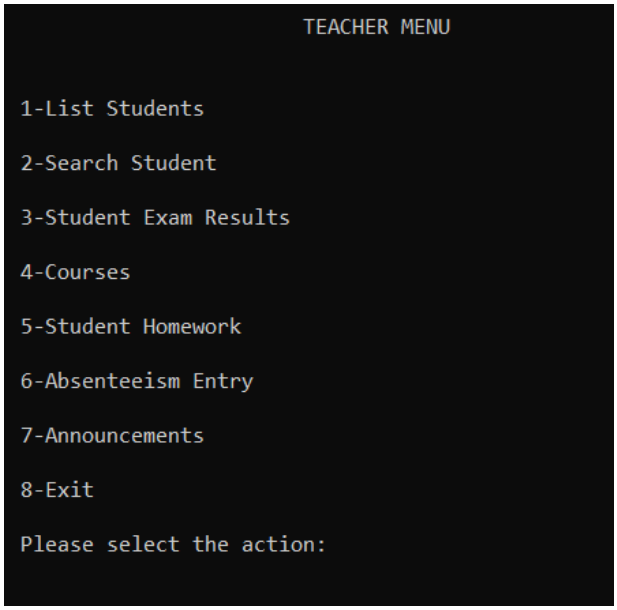

Figure 3.4.1 Teacher Menu

There are 2 different options for students to enter the system. These;

1) Register

2) Login

After the user selects the appropriate login option, a menu according to the type of the user opens.

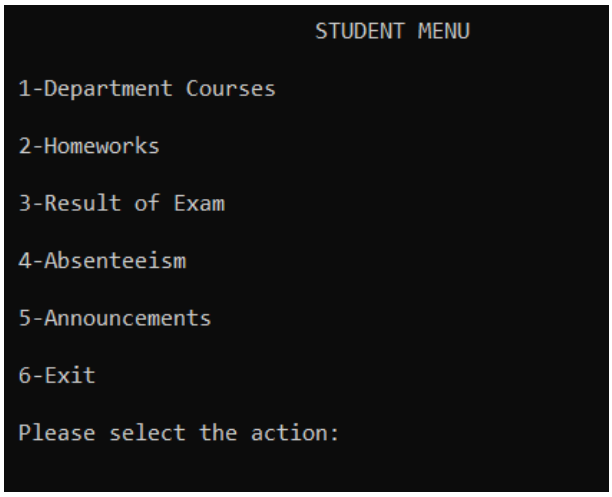

Figure 3.4.2 Student Menu

3.4.2. MANAGER MENU

3.4.2.1.Add Student

The first step in the Manager menu is Adding Students. In this section, required information of the student is entered as in Figure 3.4.2.1. This information is written to the "student.txt" text file.

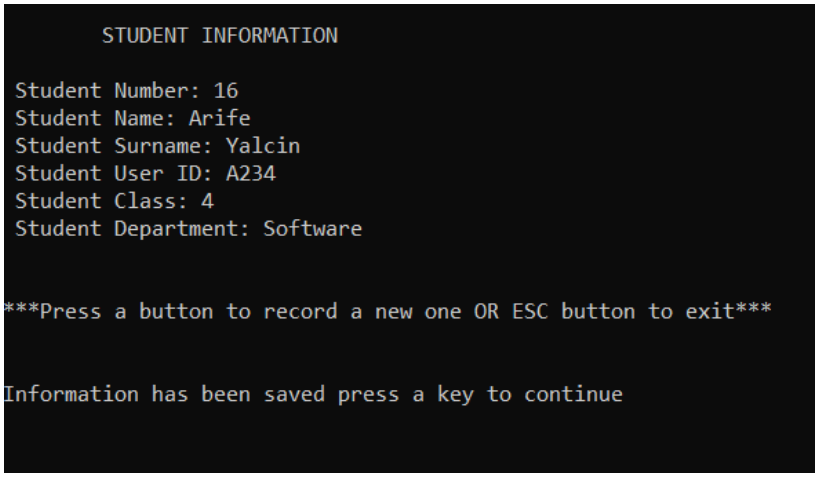

Figure 3.4.2.1 Add Student (Manager Menu)

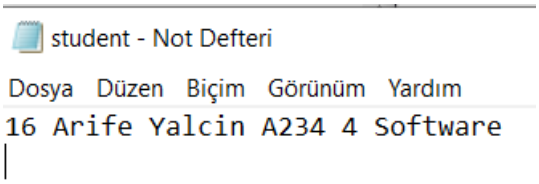

Figure 3.4.2.1.1 Add Student txt file (student.txt)

3.4.2.2. Edit Student Information

It is an option created for situations where changes need to be made on student information that the administrator has previously entered. Here, the 'student number' number entered in the "Add Student" section is requested for the student. If there is no student with the entered student number, the system gives a warning as in figure 3.4.2.2.

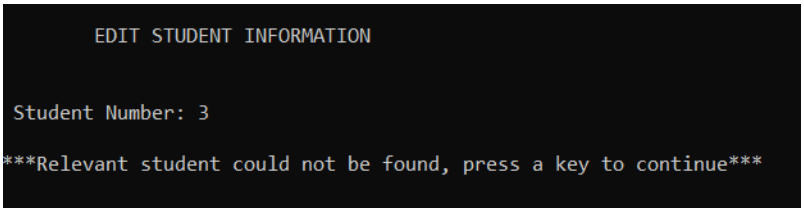

Figure 3.4.2.2 Student not found warning

However, if the relevant student is registered in the system, that is, if the student number matches, the information entered in the student add section is requested to be re-entered. Thus, the information to be corrected is changed. The change of information is as follows;

1) The student.txt text file is read

2) The data in this text file is written to the stdnew.txt text file.

3) If there is no record of the relevant student number, the stdnew.txt text file is removed.

4) If there is a record of the relevant student number, the student.txt text file is removed first. Later, the name of the stdnew.txt text file where the new information is saved has been changed and student.txt has been made again.

5) Thus, new student information is written in the first text file.

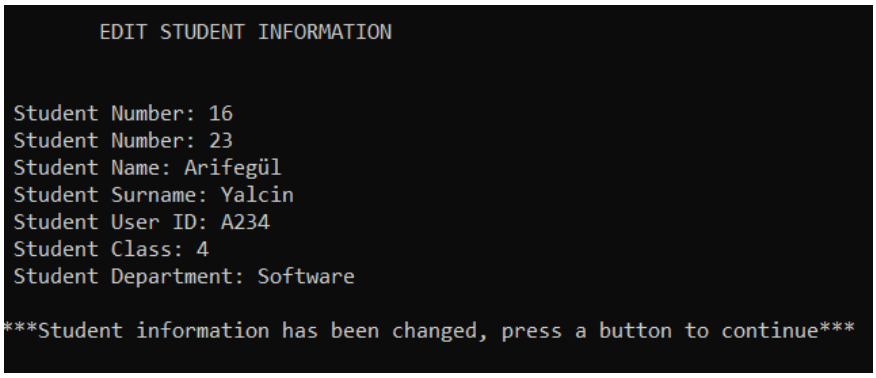

Figure 3.4.2.2.1 Edit Student Information

As seen in Figure 3.4.2.2.1, information is entered in this way.

You can better see the differences in student information in the figures below.

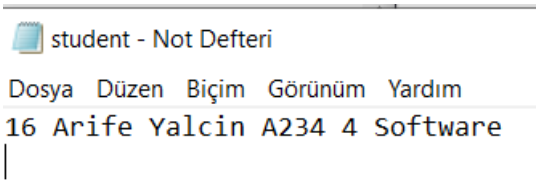

Figure 3.4.2.2.2 Former Student Information

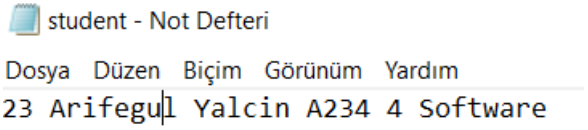

Figure 3.4.2.2.3 New Student Information

3.4.2.3.Delete Student

The student number of the student to be deleted is entered. The record of the student whose number is entered is deleted from the student.txt text file.

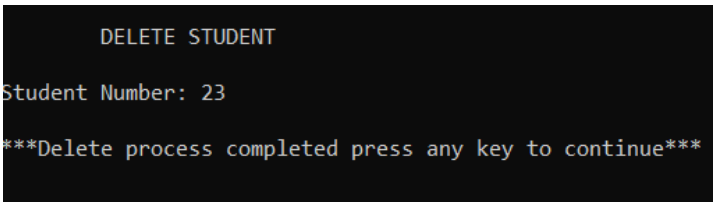

Figure 3.4.2.3 Delete Student

Figure 3.4.2.2.3 shows the student.txt text file before the student's information is deleted. In Figure 3.4.2.3.2, it is the state of the student's information after it is deleted.

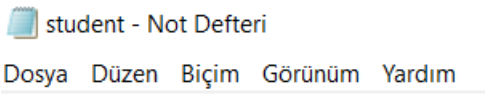

Figure 3.4.2.3.2 Delete Student (After)

3.4.2.4.List Student

Students registered in the system are listed in this section. All students can be viewed.

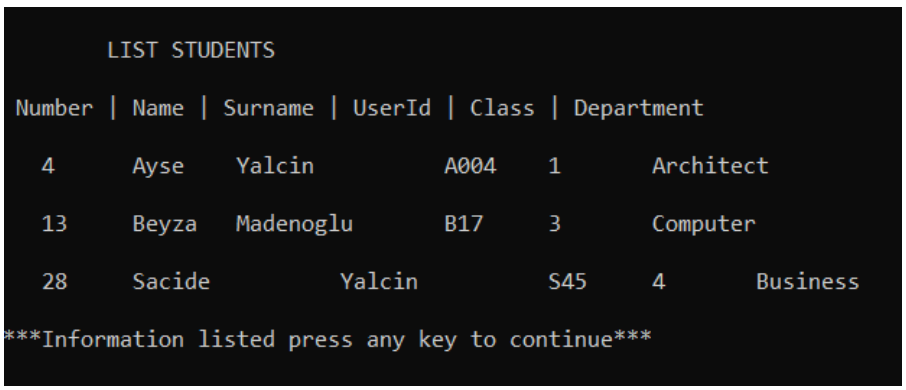

Figure 3.4.2.4 Delete Student (After)

3.4.2.5.Search Student

When searching for a student registered in the system, the user ID of the student is asked and access to the student's information is provided with the entered student user ID.

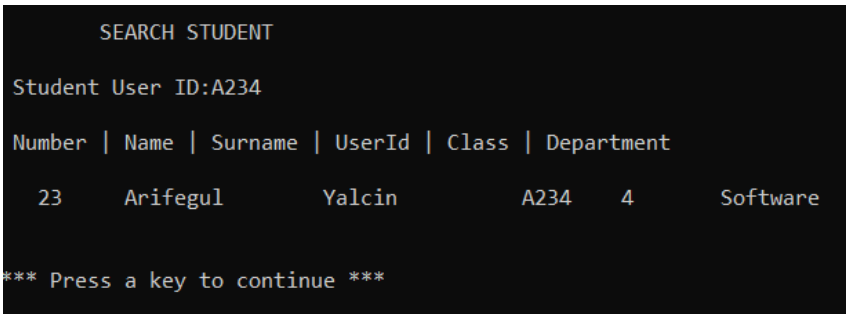

Figure 3.4.2.5 Search Student

3.4.2.6.Student Exam Results

In order for the student to be viewed by the administrator, the student's User ID is required first. According to the entered Student User ID, if the student has entered exam results, it is displayed in the administrator system as in Figure 3.4.2.6.

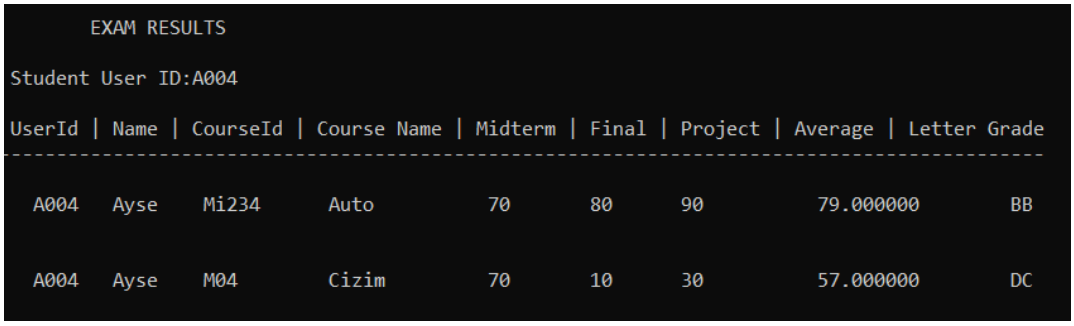

Figure 3.4.2.6 Student Exam Results

3.4.2.7.Department Courses

It is the part where the administrator enters the department courses to the system. In the system, the semester (Term1 or Term2) of the course, which department the course will be, the code of the course and lastly the name of the course are entered into the system.

This information can then be accessed by entering the term of the course and which department the course is in the teacher and student system.

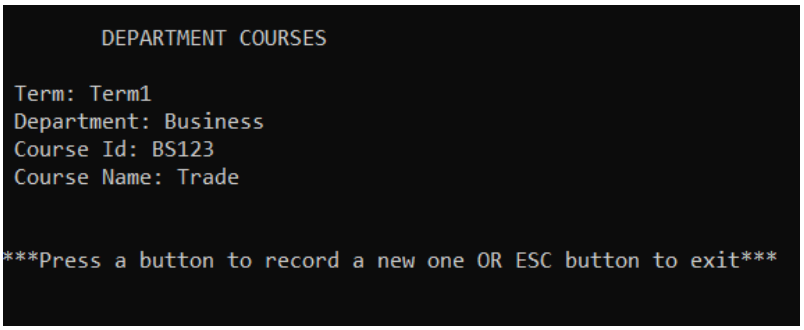

Figure 3.4.2.7 Department Courses

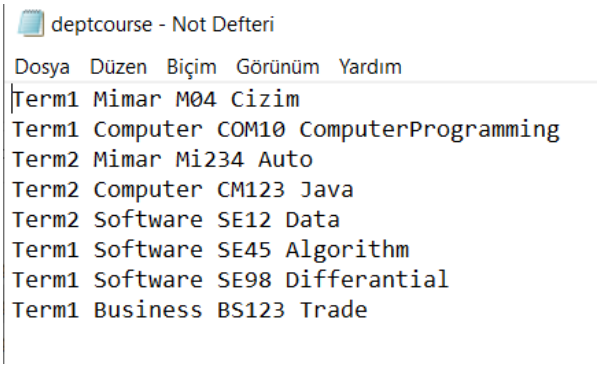

Figure 3.4.2.7.1 Department Courses(deptcourse.txt)

3.4.2.8.Announcements

It is the part where the manager adds an announcement about the university. Here, the announcement to be made to the system is added and the date of the announcement is entered. The announcement will be displayed in the system of the teacher and student.

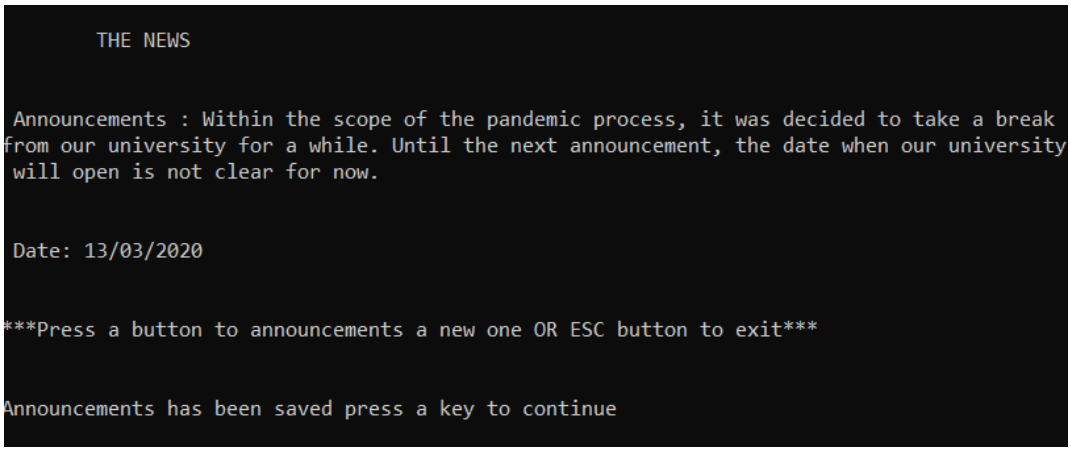

Figure 3.4.2.8 Announcements

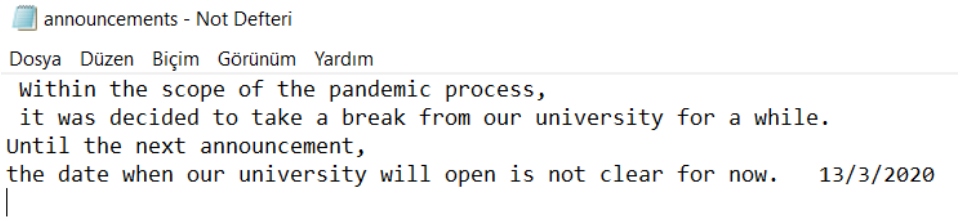

Figure 3.4.2.8.1 Announcements (announcements.txt)

3.4.3. TEACHER MENU

3.4.3.1. Search Student

In the student search option, the teacher must enter the user ID of the student he wants to search. The teacher can access the information previously entered by the administrator of the student whose Student User ID is entered.

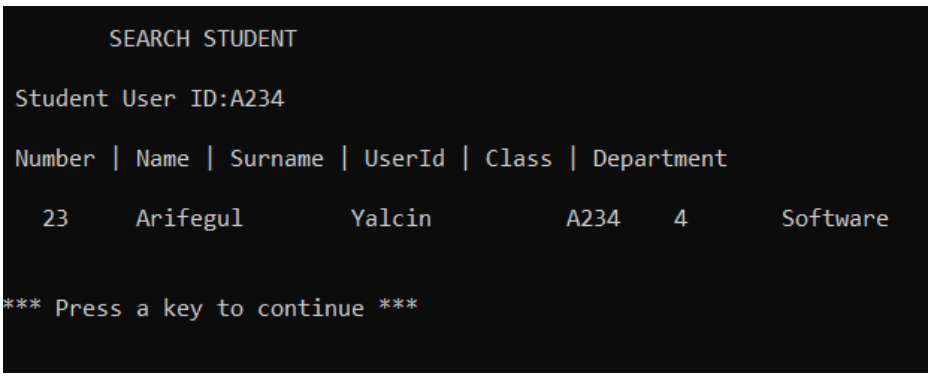

Figure 3.4.3.2 Search Student (Teacher Menu)

3.4.3.2.Student Exam Results

This option is the part where the teacher will enter the student's exam result information. The teacher must enter the student's User ID, Name and exam results. The Lecture ID of the course in which the exam results are entered must also enter the information about the Lecture Name.

Midterm Exam affects 30%, Final Exam 50%, Project 20%.

In addition, if the student's grade point average is below 59.90, the student's make-up exam result is asked. If the student has not taken the make-up exam, '0' must be entered.

Grade point average is recalculated after all exam results entry procedures are completed.

If the average of the exam score is 90 and above, the letter grade AA is written in the system.

Other letter grade calculations are as follows;

exm.avg <90 Letter Grade: BA

exm.avg <85 Letter Grade: BB

exm.avg <75 Letter Grade: CB

exm.avg <70 Letter Grade: CC

exm.avg <60 Letter Grade: DC

exm.avg <55 Letter Grade: DD

exm.avg <50 Letter Grade: FD

exm.avg <40 Letter Grade: FF

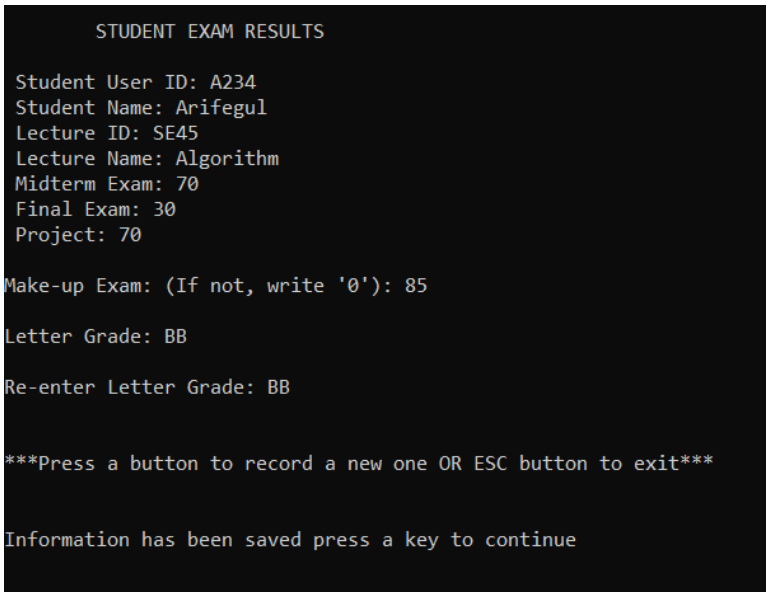

Figure 3.4.3.3 Entering Student Exam Result

3.4.3.3. Courses

According to the information that the manager has previously entered into the system, the teacher can access the lessons by entering the period and the department in the system.

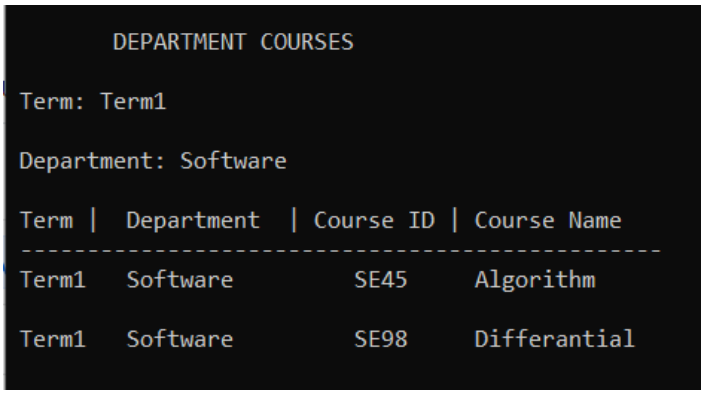

Figure 3.4.3.4 Department Courses (Teacher Menu)

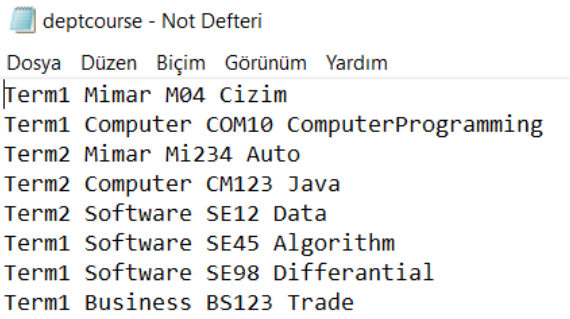

Figure 3.4.3.4.1 Department Courses (deptcourse.txt)

3.4.3.4. Student Homework

If the teacher will give homework to the student, he must select this option from the system. Next, the teacher must enter the student's User ID, Course ID, Course name, Homework information, and finally the Start and Due Date of the assignment.

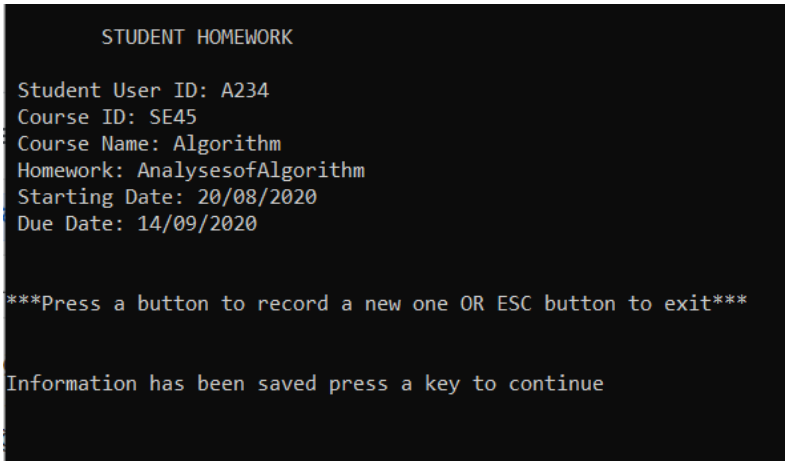

Figure 3.4.3.5 Entering Student's Homework (Teacher Menu)

3.4.3.5.Absenteeism Entry

The teacher will be able to enter the attendance information of the student in the attendance system. For this, the teacher must enter the student's User ID, Course ID, Course Name and Absenteeism information into the system.

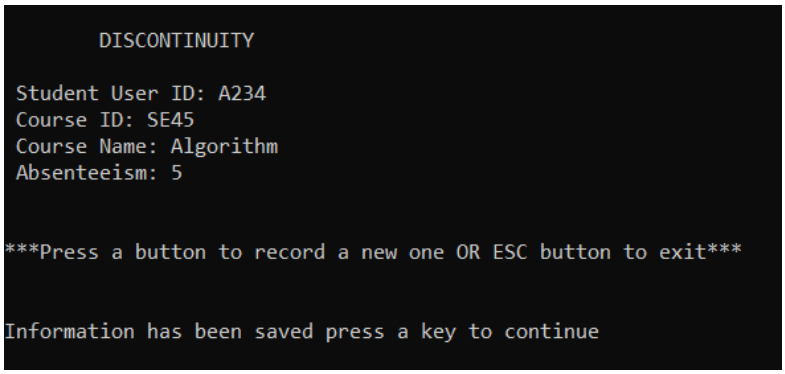

Figure 3.4.3.6 Entering Student's Absenteeism (Teacher Menu)

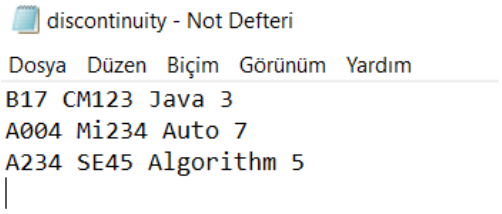

Figure 3.4.3.6.1 Student's Absenteeism (discontinuity.txt)

3.4.3.6.Announcements

The announcement entered into the system by the administrator before is seen in the teacher's system as in Figure 3.4.3.7.

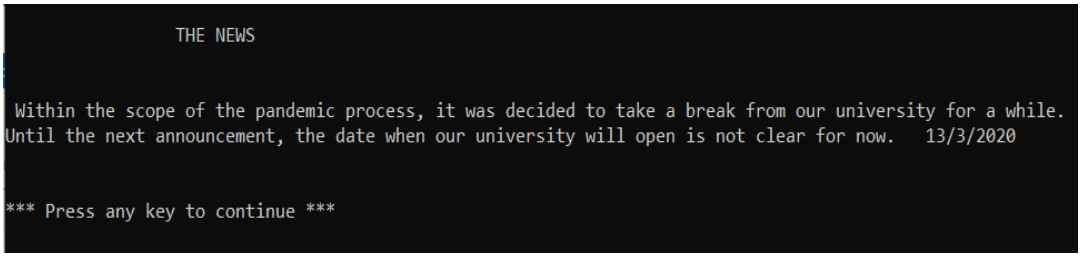

Figure 3.4.3.7 Announcements (Teacher Menu)

3.4.4. Student Login Options

In this section, there are 2 different options for the student to enter the system. If she/he has registered before, she/he can log into the system immediately from the Login option. However, if there is no record, the system requires the student to create a record.

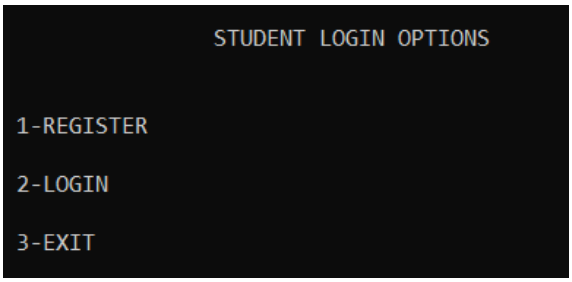

Figure 3.4.4 Student Login Options

3.4.4.1. Register

After the student who is not enrolled has selected the registration option, the student must enter their T.C and name information. Then the student must set a username and password that they will not forget later. With this registration information, the student will then log into the system.

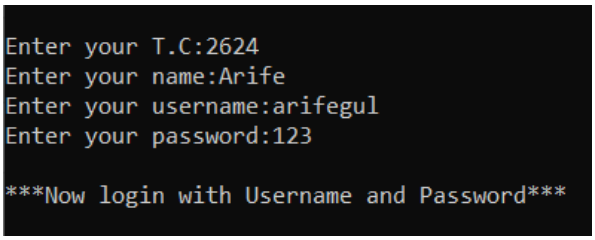

Figure 3.4.4.1 Register

3.4.4.2.Login

The student can log into the system with the user name and password he / she created in the registration section.

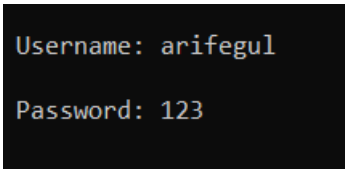

Figure 3.4.4.2 Login

3.4.5. STUDENT MENU

3.4.5.1.Department Courses

According to the information that the manager has previously entered into the system, the student can access the lessons by entering the period and the department in the system.

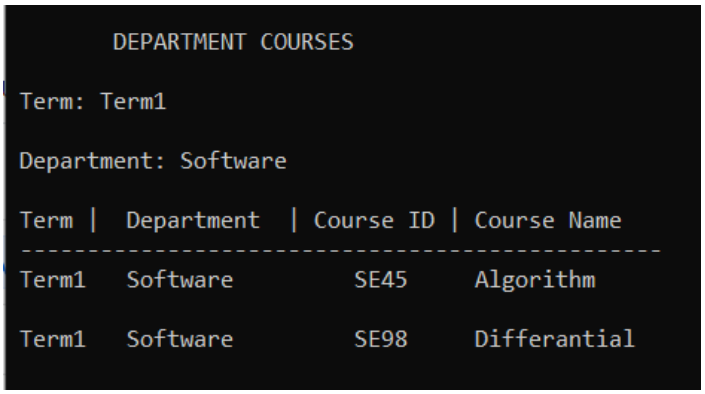

Figure 3.4.5.1 Department Courses (Student Menu)

3.4.5.2.Homeworks

If the teacher has entered the system before, he / she can access it from his / her student system. For this, after entering this option, the student must enter their Student ID. Then the student can view his / her homework as in figure 3.4.5.2.

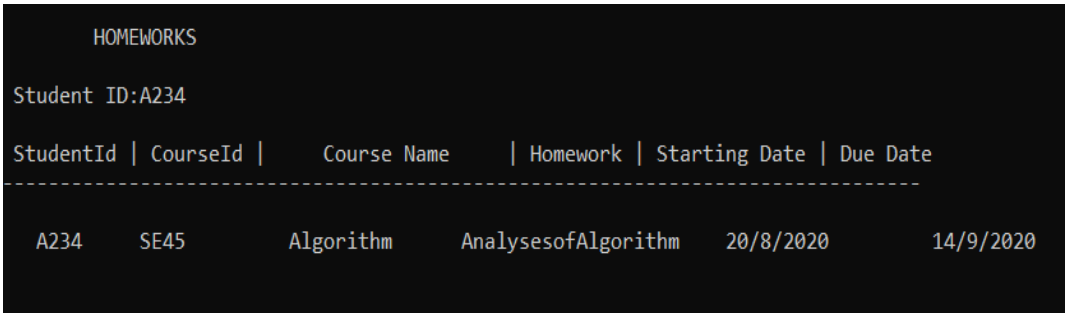

Figure 3.4.5.2 Homeworks (Student Menu)

3.4.5.3.Result of Exam

According to the entered Student User ID, if the student's exam results are entered into the system by the teacher, they are displayed in the student system as in Figure 3.4.5.3

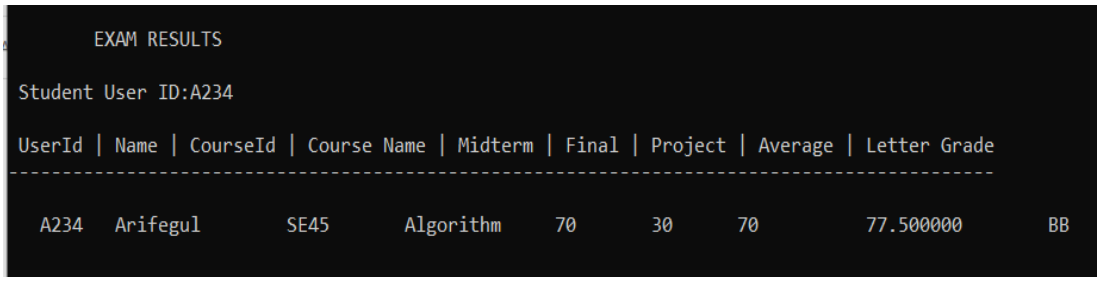

Figure 3.4.5.3 Exam Result (Student Menu)

3.4.5.4.Absenteeism

The teacher should select this option to see the attendance information that the teacher has previously entered into the system in the student system. Here, the student can access how much absenteeism from which course in the system by entering his/her Student User ID

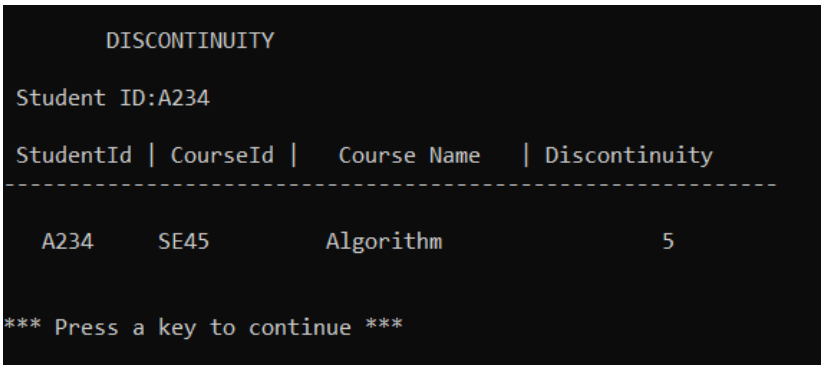

Figure 3.4.5.4 Absenteeism (Student Menu)

3.4.5.5. Announcements

The announcement entered into the system by the administrator before is seen in the student's system as in Figure 3.4.5.5.

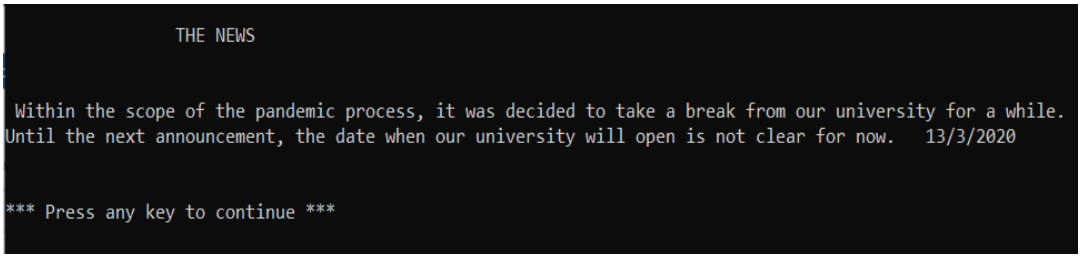

Figure 3.4.3.7 Announcements (Student Menu)