

Topics:

Files.

[100 + 10 points]

1. Form Fill-in

[30 points]

Write a program that automates the process of filling out forms (application, request, certificate, etc.), and generates an output file with all the needed information. The overall scenario is as the following:

- a) Read a form template (from input file);
- b) Process the file*;
- c) Ask the user for input data;
- d) Generate a new output file with all the provided information.

* The processing shall have the following rules:

[Text] - indicates an input from user with the given “Text”;

[Text:Option1,Option2,etc.] - indicates a menu option to be selected by the user with the “Text” as title;

[#FixedText] - indicates a text to be generated by the system automatically. Ex: #date, #time.

For instance, given the “Application.txt” file, the program shall work as follows:

Ex:

```
>>> form('Application.txt')
Тегі (Фамилия): Дүйсебеков
Аты: Жасдәурен
Факультеті:
1 - Экономика және әкімшілік-басқару ғылымдары
2 - Филология және педагогикалық ғылымдар
3 - Заң және әлеуметтік-гуманитарлық ғылымдары
4 - Инженерлік және жаратылыстану ғылымдары
4
Курс: 4
```

The result should look like the “Дүйсебеков_Application.txt” file.

2. Duplicate Files

[20 points]

Exercise 14.3 in the textbook

Bonus Task

[+10 points]:

Make the program delete the duplicate files (leaving one original).

3. Students Database

[30 points]

Write a program that keeps all the following data about students:

- Student ID number (serves as a key);
- Name and Surname;
- Grade List (Midterm-1, Midterm-2, Final).

The data shall be saved into a database in the corresponding format (use `pickle`).

For demonstration purposes, you may need to create some methods like adding a new student, listing all students, calculating total grade of a student, etc.

Consider possible issues that may arise (exceptions), and deal with them in a proper way.

4. Creating a Module

[20 points]

Create a new module from the existing program written previously (Chapter-13, Task-1). The module should have four functions to work with files (`total_words`, `total_diff_words`, `most_frequent`, `compare_list`).

Ex:

```
>>> import fileread
>>> print(fileread.total_words('words.txt'))
113 356
```

=====END.