

Objectives:

- C++ Programming File Input/Output, Unions, Pointers
- C++ File name is **StudentID_qNO.cpp**
- **Note:** Write comments in your code for explaining steps.
- **Note:** Pay attention to the indentations in your code.

Question 1: Write a program that take name and surname from user for different 5 person than write these information to the txt file. The data in the txt file should be as in the example shown below. Finally, read txt file and print all informations to the screen.

For example:

For 1. Person:

Enter name: **name1**

Enter surname: **surname1**

For 2. Person:

Enter name: **name2**

Enter surname: **surname2**

...

Output :

1. Person name is **name1**

1. Person surname is **surname1**

2. Person name is **name2**

2. Person surname is **surname2**

...

Example Txt file:

name1 surname1

name2 surname2

...

Question 2: Write a program to read the file and store the lines into an array. First, create the txt file with the following content. Suppose that you dont know the number of lines in file. So, you have to use **DMA** to specify the size of array. Check your program with different number of line that you will **add/remove** (**Hint:** Find the number of lines in file for array size.).

Txt file content:

test line 1

test line 2

test line 3

test line 4

test line 5

Then read data from file and assign them into an array. Finally, the array will have 5 elements and each one represents a line of file. Print the content of array to the screen.

Output :

Line is test line 1
Line is test line 2
Line is test line 3
Line is test line 4
Line is test line 5

Question 3: Follow the given steps:

- ✓ Define a struct namely **Course** that include informations of courses such as classID, name, capacity, studentIDs. A course may include many students. So, be careful while selecting the type of student variable. You can use the proper variable types.
- ✓ Create a **Courses.txt** file with the given content. Each line represent different course and first three informations are classID, name, capacity and the remainings are studentIDs .

Courses.txt

B401 Math 45 1045 1046 1047
B402 OOP 85 1072 1020 1034 1032 1043

Explanation: B401 course' name is Math, has 45 capacity and include 3 students.

- ✓ Define an array namely **Sources** with type of **Course** struct. Use **DMA** approach to specify the size of array. Read each line of **Course.txt**, set line content into a **Course** struct and add it into **Sources** array.
- ✓ Print the content of **Sources** array to the screen.