

## Lab 1 Tasks

**Q1.** Create a structure **student** to specify data on students given below: **Roll number, Name, Department, Course and Year of joining**. Read the file students.txt in the ftp for your input. Now

- a) Write a function to print names of all students who joined in a particular year.
- b) Write a function to print names of all students who are in a particular department.
- c) Write a function to print names of all students who are taking a particular course.
- d) Write a function to print the data of a student whose roll number is given. Print the same data in a file too.
- e) Use a switch statement so that the user can select any of the above functions.

**Q2.** This is task that will be continued in the following labs. The task is to project that simulates a phone book. For today's lab, create a structure that will contain the following information for a single contact of a phone book.

- a) Name (Name can be 50 characters long)
- b) Phone Number (A contact can contain up to 5 phone numbers. Each phone number can 50 digits long. A number can start with zero (0) or plus sign (+))
- c) Address (Address can be 50 character long)
- d) Email Address (A contact can contain up to 5 emails. Each email address can be 50 characters long)
- e) Group (A contact can belong to up to 5 different groups (e.g. friends, family etc.). The name of the groups are given by the user when saving the contact. They are not case sensitive)

Create an array of the structure type. Create a menu that will have two options: 1. create a new contact and 2. view all existing contacts. Create two separate functions for the two options of the menu.

When creating a new contact the user will first give the name of the contact. Then the program will ask whether the user wants to save a number. If the user presses Y (yes) then the program will take a phone number as input. In this way, the user can give a total to 5 numbers. Then the user will be asked whether he wants to save an address. If user presses Y then an address will be taken as input. Similar steps will occur from email address and groups.