

Due Date: February 19, 2018 11:59pm

Question-1

Suppose that you have a text file named **contacts.txt** listing name (maximum 15 characters), last name (maximum 15 characters) and birth date (in the format dd.mm,yyyy) of people. We do not know how many records are given in that text file but we know that there are at most 100 records in that file. A sample text file is provided below.

contacts.txt

```
PATRICIA JOHNSON 01-02-2000  
LINDA WILLIAMS 02-04-1980  
BARBARA BROWN 09-01-1995  
ELIZABETH JONES 29-05-1960  
JENNIFER MILLER 15-08-1985  
MARIA DAVIS 19-06-1999
```

Write a C program and:

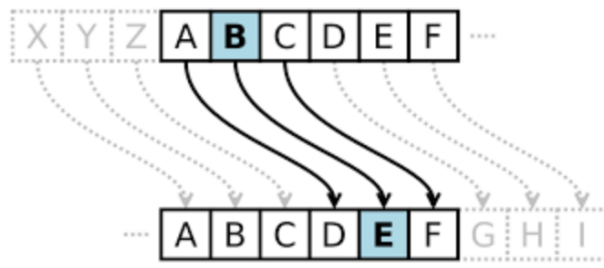
- Create a structure named **date**, to store day, month and year of the date.
- Create another structure named **contact** to store each person's name, lastname and birth date information.
- Write a function named **loadContact** to read all records of the text file **contacts.txt** in an appropriate way.
- Your main program should then list all contacts whose age is in between 18 and 25 in the format provided in sample run below.

Sample run for the given input file:

```
P. JOHNSON, 18  
B. BROWN, 23  
M. DAVIS, 19
```

Question-2

Write a C program to implement an encryption algorithm described below. In this encryption technique, each letter of a given input word is replaced by a letter some fixed number of positions down the alphabet.



Your program will input a word and an integer value as input values. The integer value indicates the number of position each letter of the word has been moved down. You are given the following sample runs as examples.

Sample Run-1

Enter a word: **computer**
Enter a number: **4**
Encrypted text: **gsqtyxiv**

Sample Run-2

Enter a word: **ZOEY**
Enter a number: **4**
Encrypted text: **DSIC**

Sample Run-3

Enter a word: **CScience**
Enter a number: **5**
Encrypted text: **HXhnpjshj**

Hints:

You are given a sample C program which reads name and phone number from a file and prints in the console.

input.txt

```
John 1234567
John 4251341
Barbara 4232342
Debbie 4232343
Walter 2324243
```

sample.c

```
#include <stdio.h>

int main(){
    char name[15];
    int phone;
    FILE *file = fopen("input.txt", "rt");
    if (file==0) {
        printf("Cannot open input file\n");
    }

    while (fscanf(file,"%s %d\n",&name, &phone)>1){
        printf("%s %d\n", name, phone);
    }
    if (! feof(file)) {
        printf("ERROR\n");
    }
    fclose(file);

    return 0;
}
```

How to submit

Please also use the following file format while naming the zip file:

- LastNameFirstnameX_Y.zip where LastNameFirstname is your last name with the first letter in capital, followed by your first name with the first letter in capital; the X is the course code; the Y is the assignment #. (ex: SerceFatmaCS351_2.zip)
- Upload the zip file to CANVAS.

How to evaluate

Your program should

- meet the requirements as shown in sample runs
- include comments to explain your program
- be easy to follow
- work for all possible inputs
- include proper input and output messages