

# Programming with Persistent Data

## LAB 3

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1. Finish the exercises of Lab2 first.
2. Read the file text1.txt as a text file and count the lines containing "school"

### 3. Binary file – join 2 bmp files

Download file1 and file2 from webcourses (lab2 material)

Write a program that merge the two files **file1** and **file2** into one file (first **file1** then **file2**). Use binary file instructions (fread, fwrite). Call the output file **picture.bmp**

The two files are actually the 2 parts of a BMP picture file. If your program is correct, you should be able to open and see the bitmap picture from Windows.

### 4. Encrypt a text file

a).

Write a program to implement a simple encrypter for text file. Let's assume the file has no capital letters.

The program read a text file and changes all the small letters (only the small letters!) by shifting them by n position (set the value of n inside your program).

For instance, if n=3 then all the 'a' becomes 'd' ; all the 'b' becomes 'e' , all the 'z' becomes 'c' and so forth. This kind of encryption is called a Caesar's cipher

([http://en.wikipedia.org/wiki/Caesar\\_cipher](http://en.wikipedia.org/wiki/Caesar_cipher)).

For instance, if n=1, if the input file is: "hello mary" the encrypted file will be "ifmmp nbsz".

All the numbers, capital letters and all the other characters (punctuations and so on )remain the same!

The program read the file (you can use myfile.txt) and write the encrypted file in encrypted.txt

b).

Write a second the program that reads the encrypted file and decrypts it back to the original status. The program needs to know the value of n