BIL110E Introduction to Programming Language (C)

Homework II (Due: 15.12.2019 23:59)

You should write a code to encrypt a message given by the sender, and the encrypted message should be decrypted by the receiver code.

1) The sender should write the message on the terminal, this message will be taken in the code as a string.

2) This message will be processed as follows:

a) When the letters of the message are processed, there should be a pattern for the letters. For example:

$$\boldsymbol{A} \leftrightarrow \boldsymbol{B}$$

$$\boldsymbol{B} \leftrightarrow \boldsymbol{C}$$

$$\boldsymbol{C} \leftrightarrow \boldsymbol{D}$$

$$\vdots$$

$$\boldsymbol{Z} \leftrightarrow \boldsymbol{A}$$

i) When there is ***A*** letter in the message it will be encrypted as ***B***. When the decryption code is used, the letter ***B*** will be converted to ***A***. This map cannot exactly be like the one given above, you should define a new rule. Every letter should be represented by another letter, it should be a one-to-one map. Please use only capital letters. The space character in between words and all the other characters should stay the same.

(1) Example: the message is **BACA**, the output of the encryption is **CBDB**. **CBDB** is the input of the decryption code and the final output should be **BACA.**

3) When the encryption is finished, you should copy the encrypted message and give it as an input to the decryption code.

a) In this code, you should convert the message to the original message delivered by the sender.

4) If the all the steps so far are completed, you can test your encryption-decryption codes. In this step, in order to make a more secure encryption, you are going to modify the second step. The map of letters will be changed when a letter is processed. There will be a known pattern like the one in step 2 when the process is begun, then after each letter is processed, this map will be changed.

Rules :

Please do it by yourself. Never submit the same homework with another student.

Please include comments to explain what you have done.

You should upload all your work to Ninova as instructed below.

The encryption code will be named as ***enc.c.*** The decryption code will be named as ***decryp.c***. The codes for the task defined in step 4 should be named as follows: ***enc4.c*** for encryption and ***decryp4.c*** for decryption. These C source codes will then be combined in a folder with your name and student ID no. For example: NameSurname_123456789.

Then archive this folder as **.zip** or **.rar** and upload your homework to Ninova before the due date. **Late homework is not accepted.**