Name: Bibek Dhungana
Lab 8

CODE

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/*
 AUTHOR: BIBEK DHUNGANA
 DATE: APRIL 3,2021
 FILENAME: Lab8.c
 SPECIFICATION: This program takes character 'e from user to
encrypt the file
                and it take character input 'd' to decrypt the
file by shifting
                each character of file by 20 character.
 FOR: CS 1412 Programming Principles 2 Section 504
 */

//including all the required libararies
#include <stdio.h>
#include <stdlib.h>
#include <stdbool.h>
#include <ctype.h>

//function prototype for Encrypt
int Encrypt(char inputfile[]);

//function prototype for decrypt
int decrypt(char inputFile[]);

int main(int argc, const char * argv[]) {

    //char array to store file name
    char inputFile[50] = "original.txt";
    char encryptedFile[50] = "encrypted.txt";

    //asking the user for input
    printf("Enter 'e' for encryption and 'd' for decription:");
    char input = getchar();

    //if input is e, perform encryption
```

```
    if (tolower(input) == 'e'){
        //encript function produce encripted.txt from original
file
        int encrytStatus = Encrypt(inputFile);
        if (encrytStatus == 1){
            printf("The file is successfully encripted\n");
        }
    }

    //if input is d, perform decryption
    if (tolower(input) == 'd'){
        //decrypt function produce decripted.txt
        int decryptStatus = decrypt(encryptedFile);
        if(decryptStatus ==1){
            printf("\nThe encripted file is sucessfully
decripted\n");
        }
    }
    return 0;
}



/*
 NAME: Encrypt
 INPUT: char[]
 RETURN TYPE: int
 SPECIFICATION: This function takes character array as input
file name.
                It encrypt the file and produce encrypted.txt
file in
                current working directory. It return 1
indicating file is
                encrypted properly.
 */
int Encrypt(char inputFile[]){
    //opening the file in read mode
    FILE* inputFilePointer = fopen(inputFile,"r");

    //opening the file in write mode. It will create a file
automatically
    //It will save the encrypted file under Encryptedfile.txt in
current working directory
    FILE* outputFilePointer = fopen("encrypted.txt","w");

    //checking file was opened properly
```

```
    if (inputFilePointer == NULL){
        printf("There was error reading the file\n");
      }
    else{
    //reading the character of the file until end of file
    while(true){
      char c = fgetc(inputFilePointer);
      if (feof(inputFilePointer) != 0){
        break;
      }
      //write the encrypted text to the file by adding 20 to
char
        fputc(c + 20, outputFilePointer);

    }

    //closing all the file pointer
    fclose(inputFilePointer);
    fclose(outputFilePointer);


}
return 1;
}

/*
 NAME: decrypt
 INPUT: char[]
 RETURN TYPE: int
 SPECIFICATION: This function takes character array as input
file name.
                It decrypt the file and produce decrypted.txt
file in
                current working directory. This function return
1 if
                the file is successfully decrypted.
 */
int decrypt(char inputFile[]){
    //opening file in read mode
    FILE* inputFilePointer = fopen(inputFile,"r");

    //open file in write mode
    FILE* outputFilePointer = fopen("decrypted.txt","w");

    //checking if file is successfully opened.
    if (inputFilePointer == NULL){
```

```
        printf("%s","The file can not be opened\n");
    }
    else{
        //reading the character of the file until end of file
        while(true){
          char c = fgetc(inputFilePointer);
          if (feof(inputFilePointer) != 0){
            break;
          }
      //write the encrypted text to the file by adding 20 to
char
          char d = c - 20;
          fputc(d, outputFilePointer);
          printf("%c",d);
          }
    }
    return 1;

}
```

OUTPUT

Original Text

Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;

Then took the other, as just as fair,
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that the passing there
Had worn them really about the same,

And both that morning equally lay
In leaves no step had trodden black.
Oh, I kept the first for another day!
Yet knowing how way leads on to way,
I doubted if I should ever come back.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.

Encrypted Text

hãÉ4ÜÉuxá4x}äyÜ{yx4}Ç4u4çyÄÄÉã4ãÉÉx@-UÇx4áÉÜÜç4]4wÉâÄx4ÇÉà4àÜuäyÄ4vÉà|-UÇx4vy4ÉÇy4àÜuäyÄyÜ@4ÄÉÇ{4]4áàÉÉx-UÇx4ÄÉÉyx4xÉãÇ4ÉÇy4uá4zuÜ4uá4]4wÉâÄx-hÉ4ã|yÜy4}à4vyÇà4}Ç4à|y4âÇxyÜ{ÜÉãà|O--h|yÇ4àÉÉ4à|y4Éà|yÜ@4uá4~âáà4uá4zu}Ü@-UÇx4|uä}Ç{4ÑyÜ|uÑá4à|y4vyààyÜ4wÄu}Å@-Vywuâáy4}à4ãuá4{Üuááç4uÇx4ãuÇàyx4ãyuÜO-h|Éâ{|4uá4zÉÜ4à|uà4à|y4Ñuáá}Ç{4à|yÜy-\ux4ãÉÜÇ4à|yÅ4ÜyuÄÄç4uvÉâà4à|y4áuÅy@--UÇx4vÉà|4à|uà4ÅÉÜÇ}Ç{4yÖâuÄÄç4Äuç-]Ç4Äyuäyá4ÇÉ4áàyÑ4|ux4àÜÉxxyÇ4vÄuw B-c|@4]4 yÑà4à|y4z}Üáà4zÉÜ4uÇÉà|yÜ4xuç5-myà4 ÇÉã}Ç{4|Éã4ãuç4Äyuxá4ÉÇ4àÉ4ãuç@-]4xÉâvàyx4}z4]4á|ÉâÄx4yäyÜ4wÉÅy4vuw B--]4á|uÄÄ4vy4àyÄÄ}Ç{4à|}á4ã}à|4u4á}{|-gÉÅyã|yÜy4u{yá4uÇx4u{yá4|yÇwyN-hãÉ4ÜÉuxá4x}äyÜ{yx4}Ç4u4ãÉÉx@4uÇx4]ˆî®-]4àÉÉ 4à|y4ÉÇy4Äyáá4àÜuäyÄyx4vç@-UÇx4à|uà4|uá4Åuxy4uÄÄ4à|y4x}zzyÜyÇwyB

Decrypted Text

Two roads diverged in a yellow wood,
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And be one traveler, long I stood
And looked down one as far as I could
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