Topics in Computer Science
Linux
CS 497-03

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BS6953
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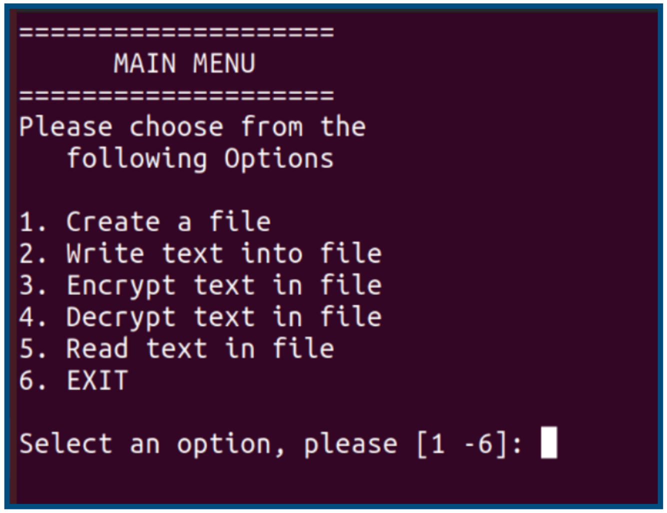
Assignment 6

Description of Script in Action



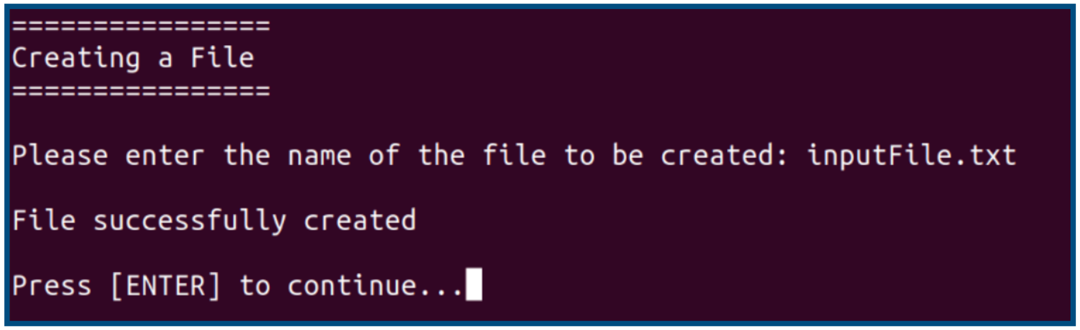
```
====================
      MAIN MENU
====================
Please choose from the
   following Options

1. Create a file
2. Write text into file
3. Encrypt text in file
4. Decrypt text in file
5. Read text in file
6. EXIT

Select an option, please [1 -6]: 
```

The program starts with a simple menu that would offer the user the following options:

1. Create a File
2. Write Text into file
3. Encrypt text in file
4. Decrypt text in file
5. Read text in file
6. EXIT

This document will show and explain how every section works.

1. Create a File

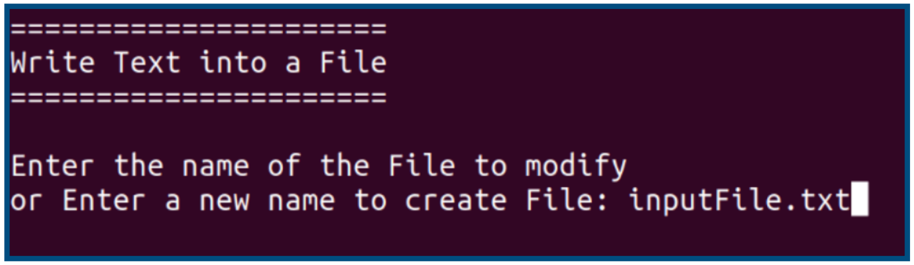


```
================
Creating a File
================

Please enter the name of the file to be created: inputFile.txt

File successfully created

Press [ENTER] to continue...
```

The “Create a File” option will assist the user on creating as many files as they need to, regardless if they are adding text to them or not.

For this particular example, we added a file named **inputFile.txt**

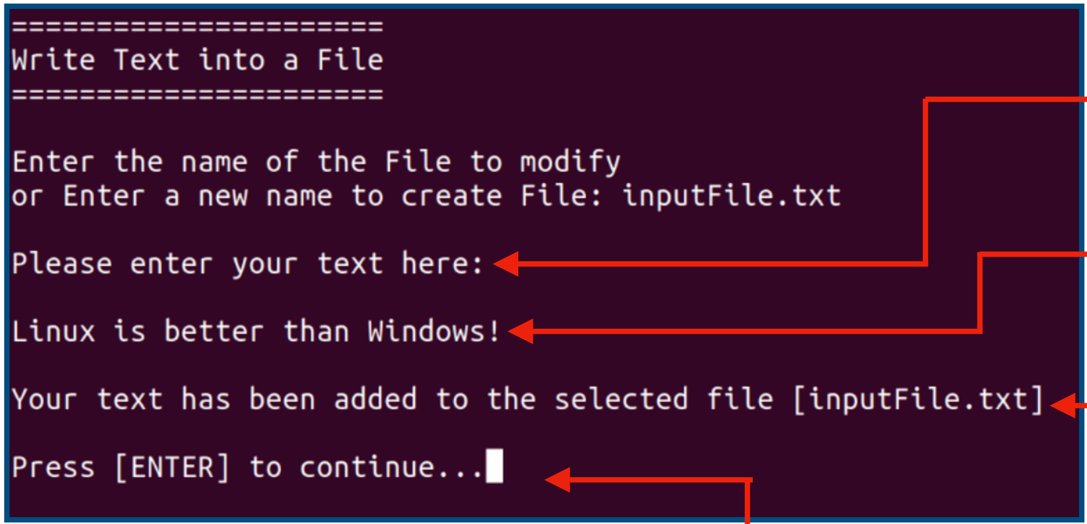
2. Write text into file



```
======================
Write Text into a File
======================

Enter the name of the File to modify
or Enter a new name to create File: inputFile.txt
```

This section will give the User the option to write text into an existing file or to create a new one.

For this particular example, we will add some text into the **inputFile.txt** file.



```
======================
Write Text into a File
======================

Enter the name of the File to modify
or Enter a new name to create File: inputFile.txt

Please enter your text here:

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Your text has been added to the selected file [inputFile.txt]

Press [ENTER] to continue...
```
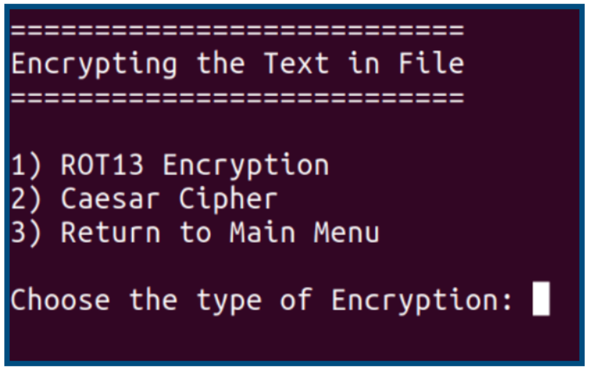

After entering the name of the file that the User wants to work with, the User would be prompted to enter the text in the selected file.

Added Text

The User will receive a confirmation message that will show the file utilized to save the text.

When the User hits [ENTER], the program will go back to the Main Menu.

3. Encrypting text in file

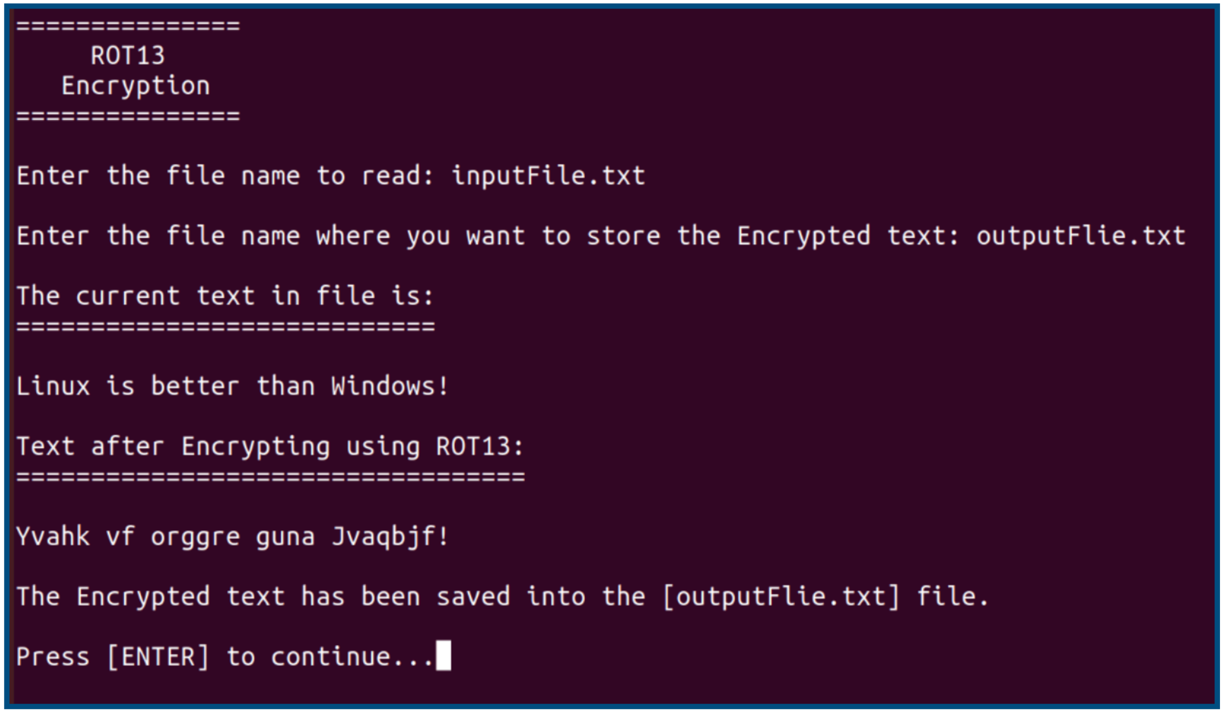


```
===========================
Encrypting the Text in File
===========================

1) ROT13 Encryption
2) Caesar Cipher
3) Return to Main Menu

Choose the type of Encryption: █
```

For this section, the program will show 2 options for encryption and one to return to the main menu.
The Encryption Options will be:

1) ROT13 Encryption.
2) Caesar Cipher

ROT13: Encryption



```
===============
     ROT13
   Encryption
===============

Enter the file name to read: inputFile.txt

Enter the file name where you want to store the Encrypted text: outputFlie.txt

The current text in file is:
============================

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Text after Encrypting using ROT13:
==================================

Yvahk vf orggre guna Jvaqbjf!

The Encrypted text has been saved into the [outputFlie.txt] file.

Press [ENTER] to continue...█
```
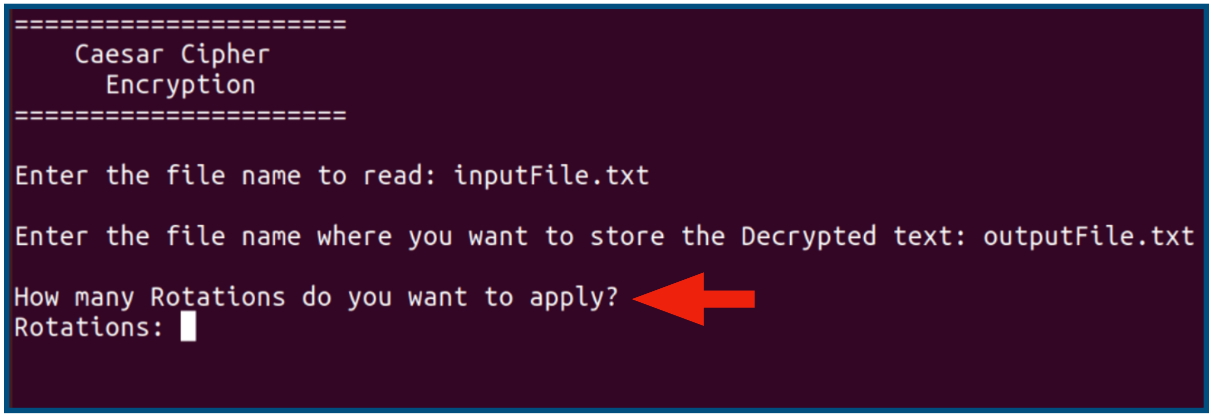
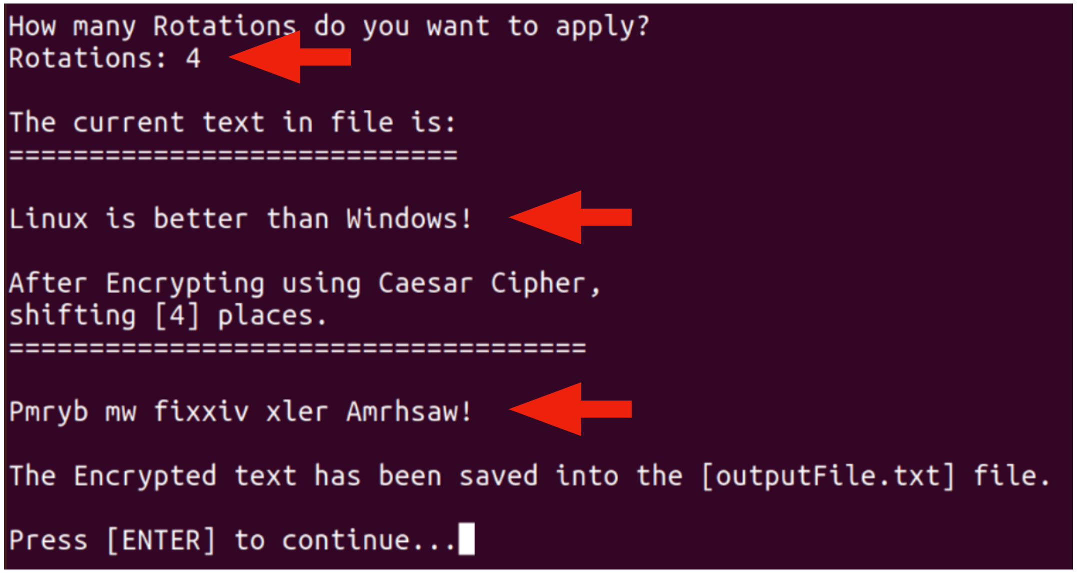

> The User will be asked to provide the file from where the program will read the text to be encrypted using ROT13.
> Then, the User will be asked to provide the name of the file to be used to store the encrypted text.
> The Original Text will be printed on screen.
> Then the Encrypted File will be displayed on screen as well.
> A final confirmation from the system will be displayed, in regards to the file that contains the encrypted text.

Caesar Cipher : Encryption



```
======================
    Caesar Cipher
      Encryption
======================

Enter the file name to read: inputFile.txt

Enter the file name where you want to store the Decrypted text: outputFile.txt

How many Rotations do you want to apply?
Rotations: █
```

This Section will work the same way as the Encryption for ROT13; however, in this case, the User will be asked to provide the number of times the cipher will shift to the left on the alphabet.



```
How many Rotations do you want to apply?
Rotations: 4

The current text in file is:
=============================

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After Encrypting using Caesar Cipher,
shifting [4] places.
=====================================

Pmryb mw fixxiv xler Amrhsaw!

The Encrypted text has been saved into the [outputFile.txt] file.

Press [ENTER] to continue...█
```

In this particular case, the User chooses to do 4 rotations.

The Original Message is:
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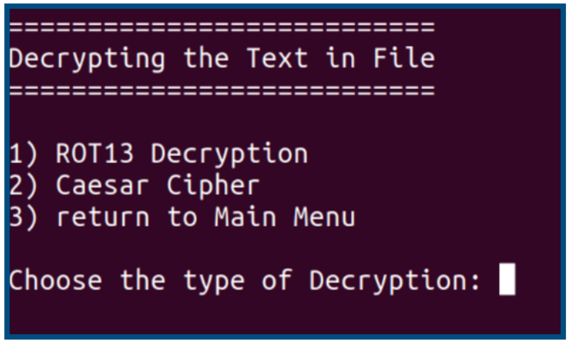
The Program will show a message that confirms the number of left shifts, per the User request, and will display the Encrypted message.
Pmryb mw dixxiv xler Amrhsaw

Before exiting this section, a confirmation message in regards to the file that will be used to store the encrypt-

4. Decrypting text in file

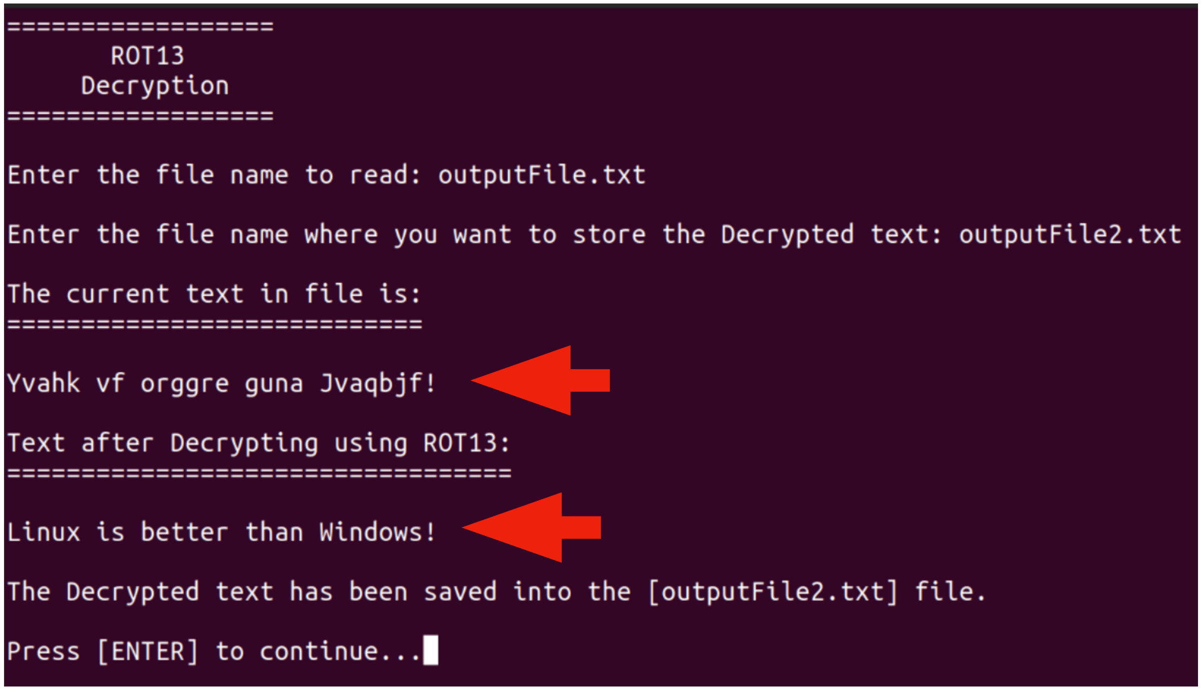


```
============================
Decrypting the Text in File
============================

1) ROT13 Decryption
2) Caesar Cipher
3) return to Main Menu

Choose the type of Decryption: 
```

For this section, the program will show 2 options for decryption and one to return to the main menu.
The Decryption Options will be:

1) ROT13 Decryption.
2) Caesar Cipher

ROT13 : Decryption



```
==================
       ROT13
     Decryption
==================

Enter the file name to read: outputFile.txt

Enter the file name where you want to store the Decrypted text: outputFile2.txt

The current text in file is:
============================

Yvahk vf orggre guna Jvaqbjf!

Text after Decrypting using ROT13:
==================================

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The Decrypted text has been saved into the [outputFile2.txt] file.

Press [ENTER] to continue...
```
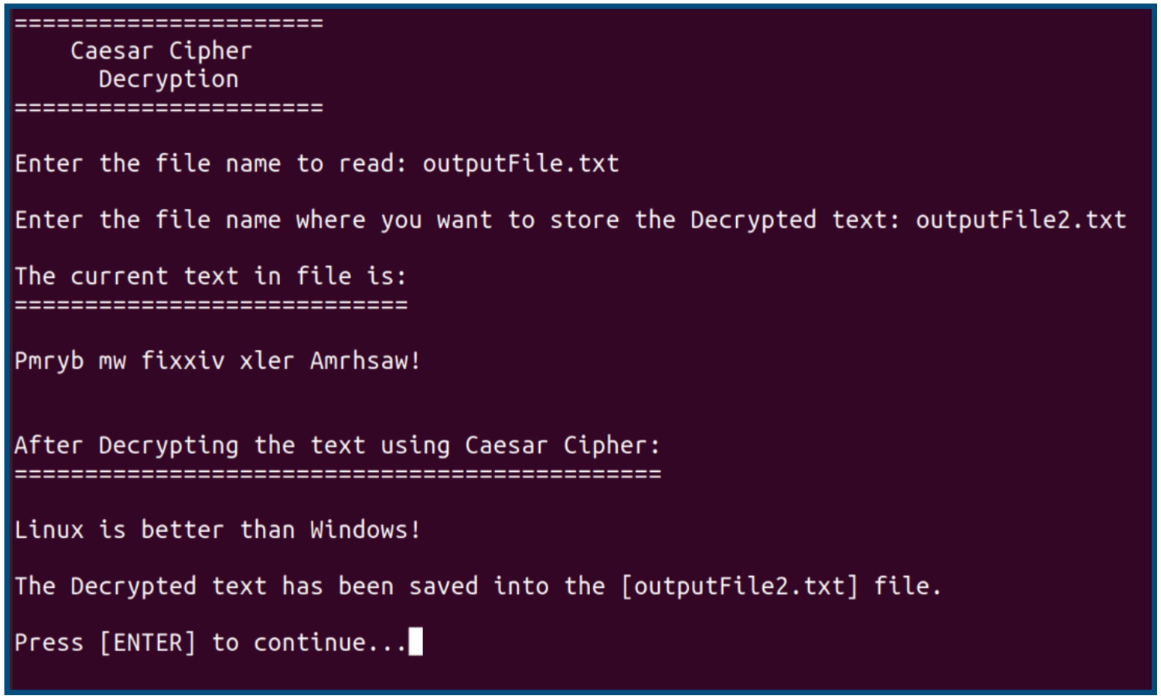

> The User will be asked to enter the file where the Encrypted text is located at.
> Then, the program will ask for the name of the file that will be used to store the Decrypted file.
> Then, the program will print out the Encrypted Message on screen and right after, the Decrypted message will show up on screen.
> A confirmation that the Decrypted message has been save in the selected file, will be shown on screen.

Caesar Cipher : Decryption



```
======================
    Caesar Cipher
      Decryption
======================

Enter the file name to read: outputFile.txt

Enter the file name where you want to store the Decrypted text: outputFile2.txt

The current text in file is:
============================

Pmryb mw fixxiv xler Amrhsaw!


After Decrypting the text using Caesar Cipher:
==============================================

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The Decrypted text has been saved into the [outputFile2.txt] file.

Press [ENTER] to continue...
```
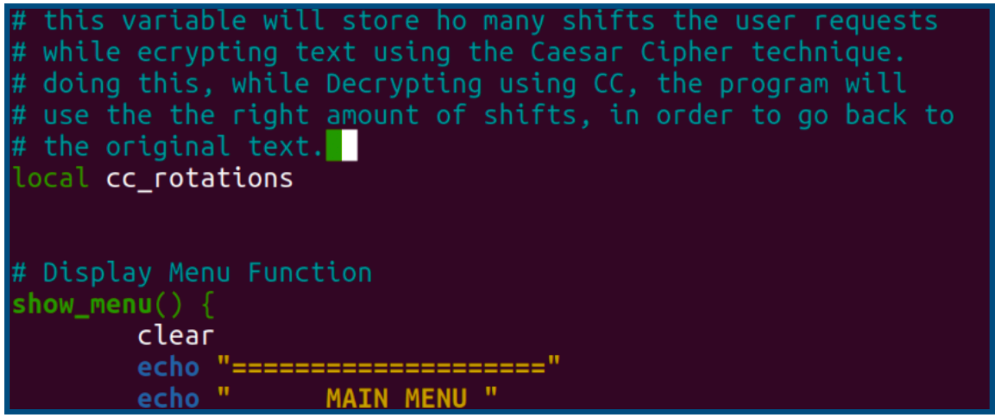

> For this section, the User will be asked, similar to the previous sections in the program, to provide a file name from where the text will be retrieved to Decrypt and the name of the file where the message will be stored. If the file provided by the user doesn't exist, the program will create it.

> The Encrypted text will be displayed on the screen, followed by the new Decrypted message.

> The program will confirm the name of the file where the Decrypted message was stored at.



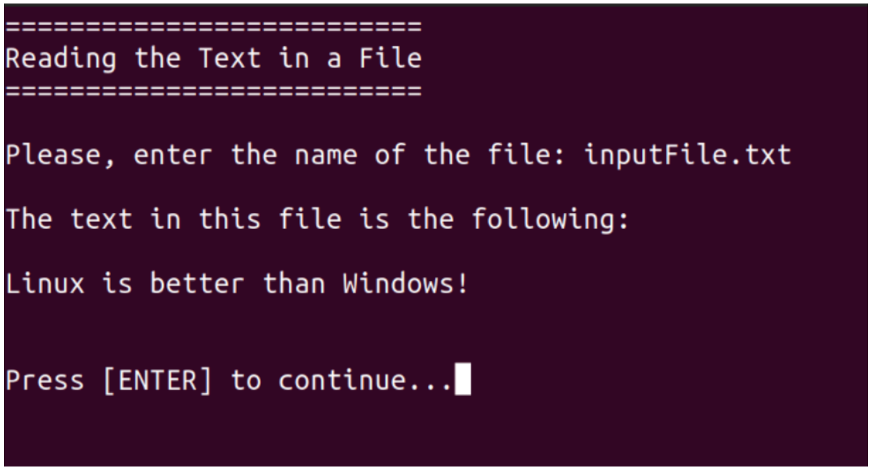
```
# this variable will store ho many shifts the user requests
# while ecrypting text using the Caesar Cipher technique.
# doing this, while Decrypting using CC, the program will
# use the the right amount of shifts, in order to go back to
# the original text.
local cc_rotations


# Display Menu Function
show_menu() {
        clear
        echo "===================="
        echo "      MAIN MENU  "
```

> It is important to note that, we don't ask the user for the number of rotations needed to Decrypt the message because, I programmed the system to remember the number of rotations used to Encrypt the text in the first place.

This was accomplished creating a global variable that would hold the choice form the User at the time of the Encryption.

If needed, this can be easily changed, so the User gets asked about the number of rotations while Decrypting the message.

5. Read text in file



```
==========================
Reading the Text in a File
==========================

Please, enter the name of the file: inputFile.txt

The text in this file is the following:

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Press [ENTER] to continue...
```
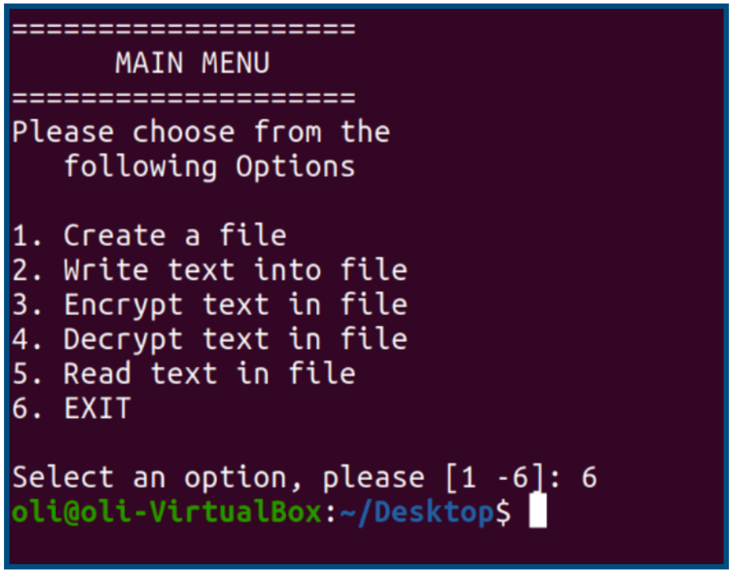

This section of the program will allow the User to read any file created to Encrypt or Decrypt text. The user will be requested to provide the name of the file and the text will be displayed on screen; regardless if the text have been Encrypted or Decrypted

6. EXIT



```
====================
      MAIN MENU
====================
Please choose from the
   following Options

1. Create a file
2. Write text into file
3. Encrypt text in file
4. Decrypt text in file
5. Read text in file
6. EXIT

Select an option, please [1 -6]: 6
oli@oli-VirtualBox:~/Desktop$
```

Selecting EXIT on the Main Menu, will terminate the program and will send the user to the command line in Terminal.
However, all the files created by the program, will stay stored on the computer. For instance, all files used to demonstrate the functionality of the application, stated saved on the Desktop and can be opened individually

END OF DOCUMENT