**DIGITAL FORENSICS LAB**

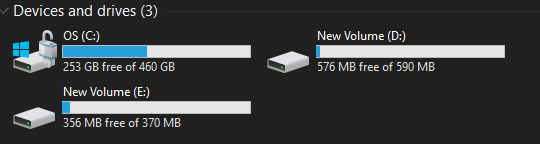
|  |  |
| --- | --- |
| Exercise 13 | |
| Name | S Shyam Sundaram |
| Registration Number | 19BCE1560 |
| Slot | L39+L40 |
| Faculty | Dr. Seshu Babu Pulagara |
| Date | 23rd November, 2021 |

**AIM**

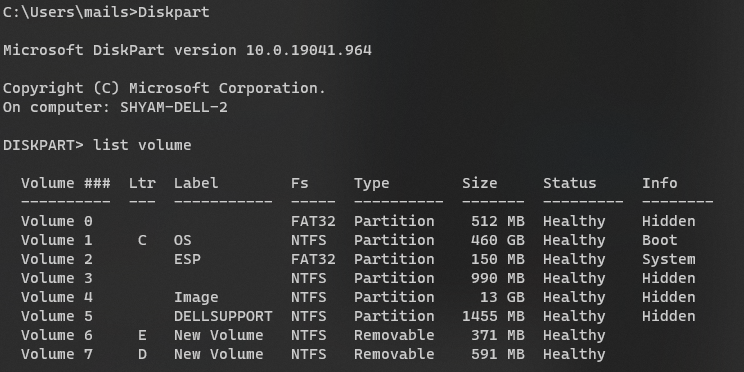
Exploring various methods of data hiding.

**Partition Hiding**

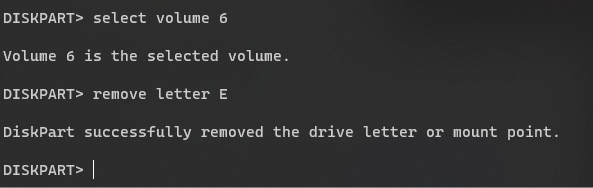
The drive currently has partitions as shown below:



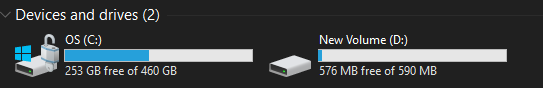
To hide partition E:, open the terminal in Admin mode. Then type in ‘Diskpart’ and press enter. Then enter ‘list volume’ to list the volumes present.



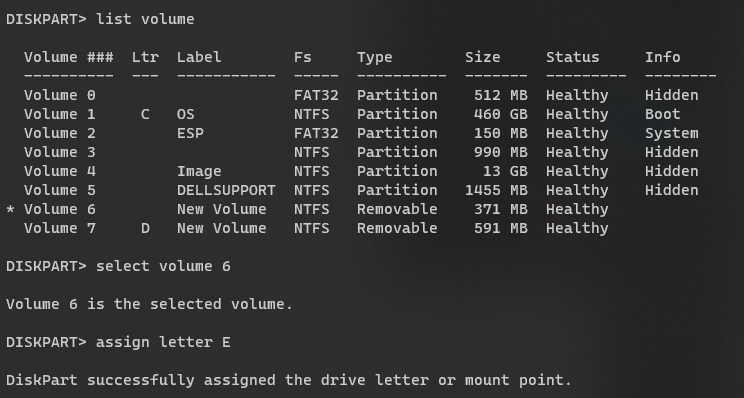
Since we want to hide E:. enter ‘select volume 6’ and enter ‘remove letter E’. The partition is now hidden.

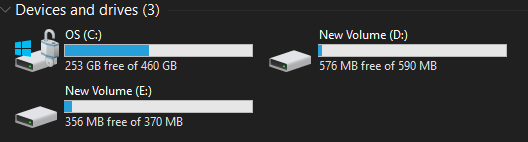


The partition and its contents are no longer visible.



To unhide it and assign it the letter E, select the volume again and assign letter E as shown below.

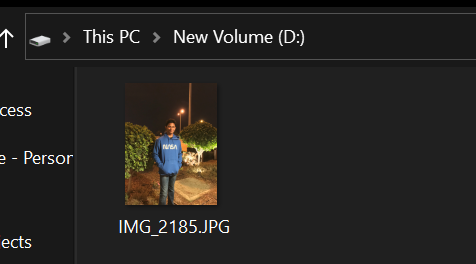




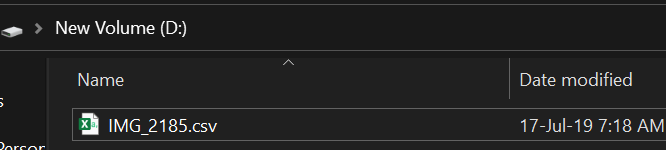
The partition is now unhidden.

**Changing file extensions**

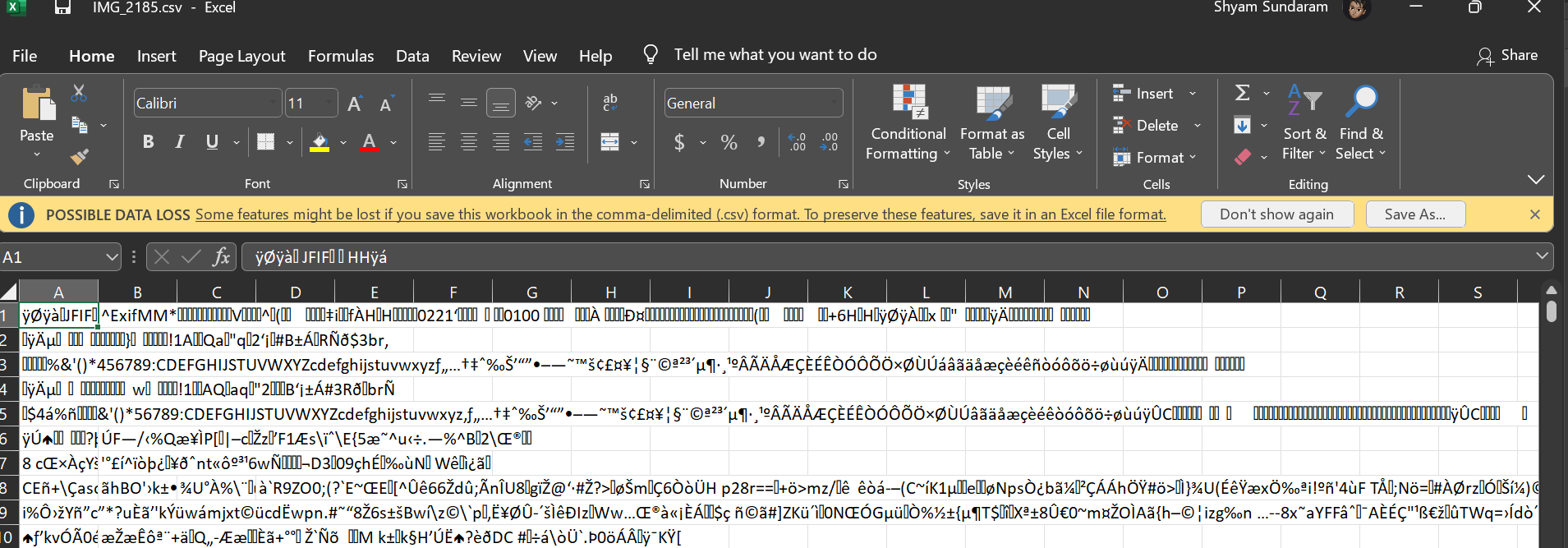
Here, we just change the extension of the file t be hidden. Say I wish to hide the JPG file below.



The extension, JPG, can be changed to something else.



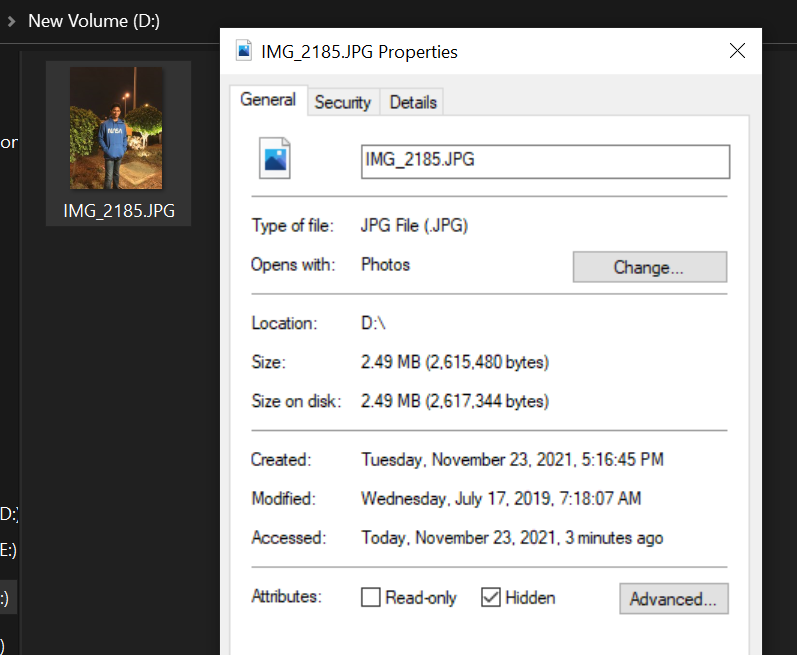
But the file would appear to be gibberish:

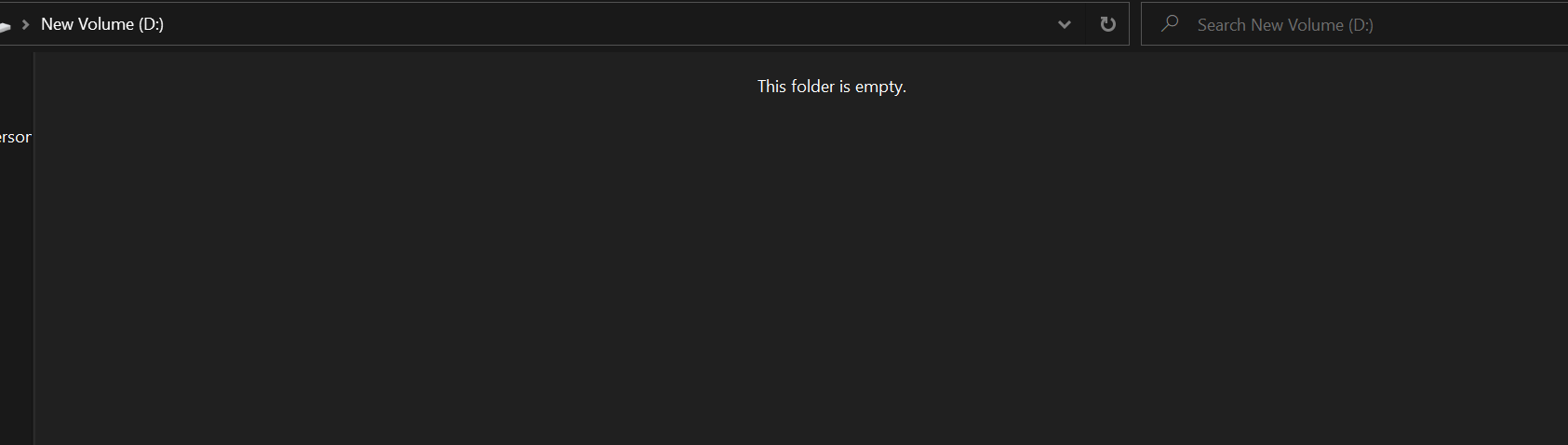


We can obtain it back by changing the extension back to JPG.

**Setting File attributes to Hidden**

This is done by selecting the file’s ‘Hidden’ attribute in properties.



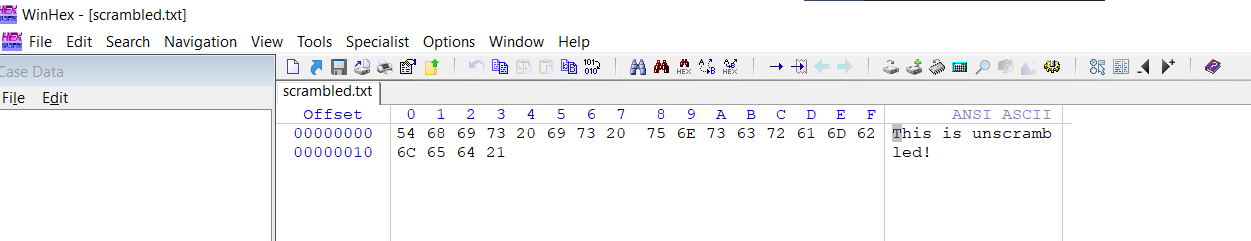


To unhide, click on View in file explorer, then select ‘Hidden Item’ in ‘Show/Hide’ group. The file will be visible and then the ‘Hidden’ attribute can be unchecked.

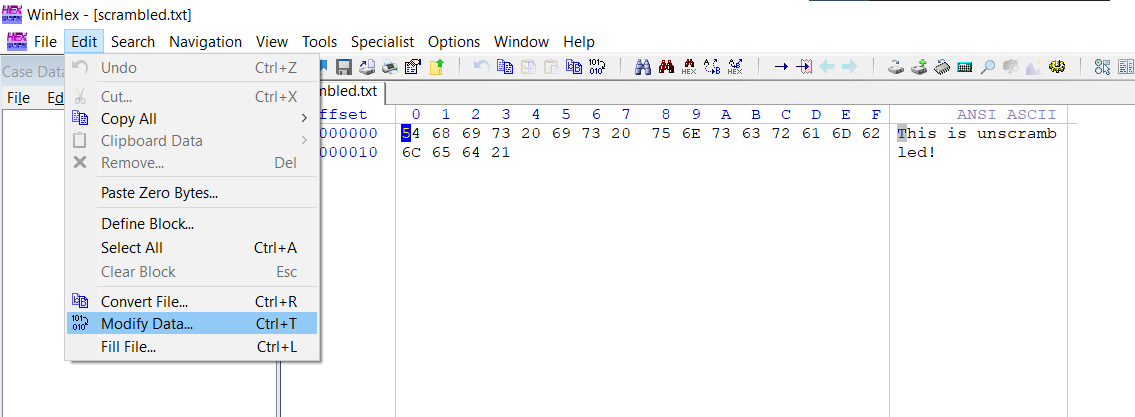
**Bit Shifting**

WinHex can be used for this.

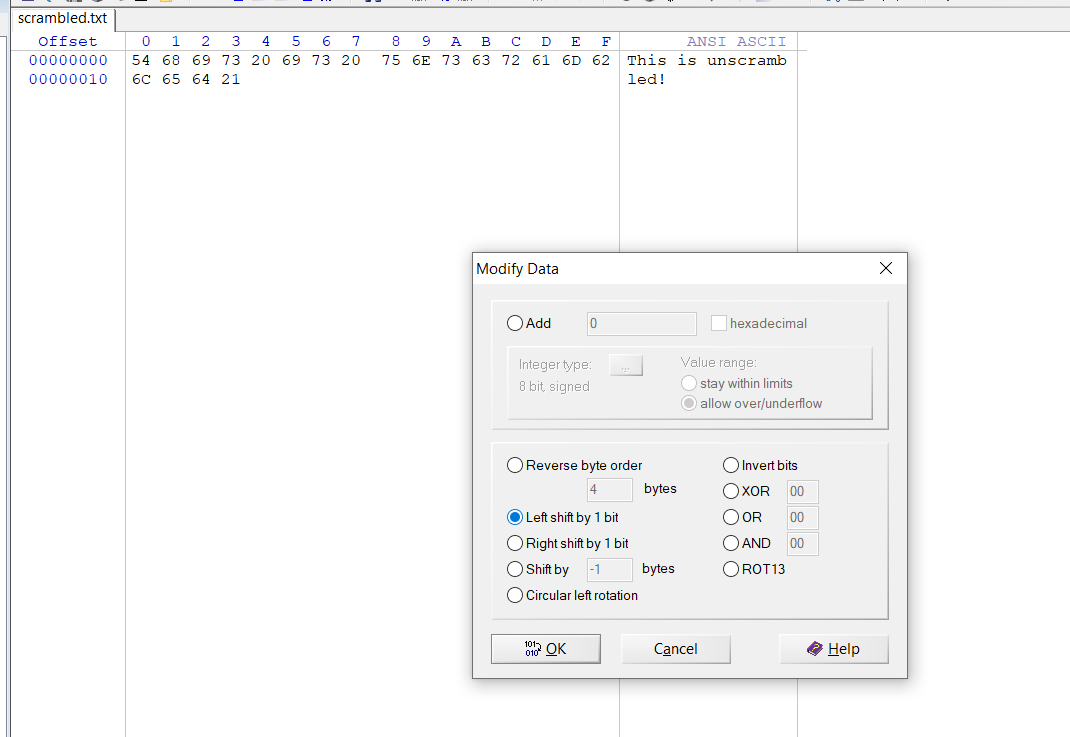
First, open a file in WinHex. Here, a text file is opened as shown.



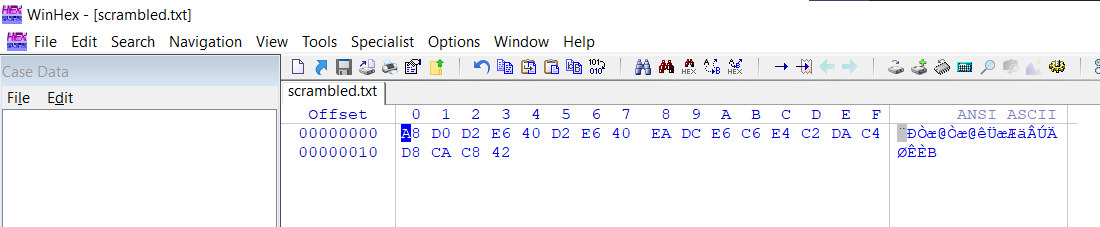
Now, go to Edit->Modify data.



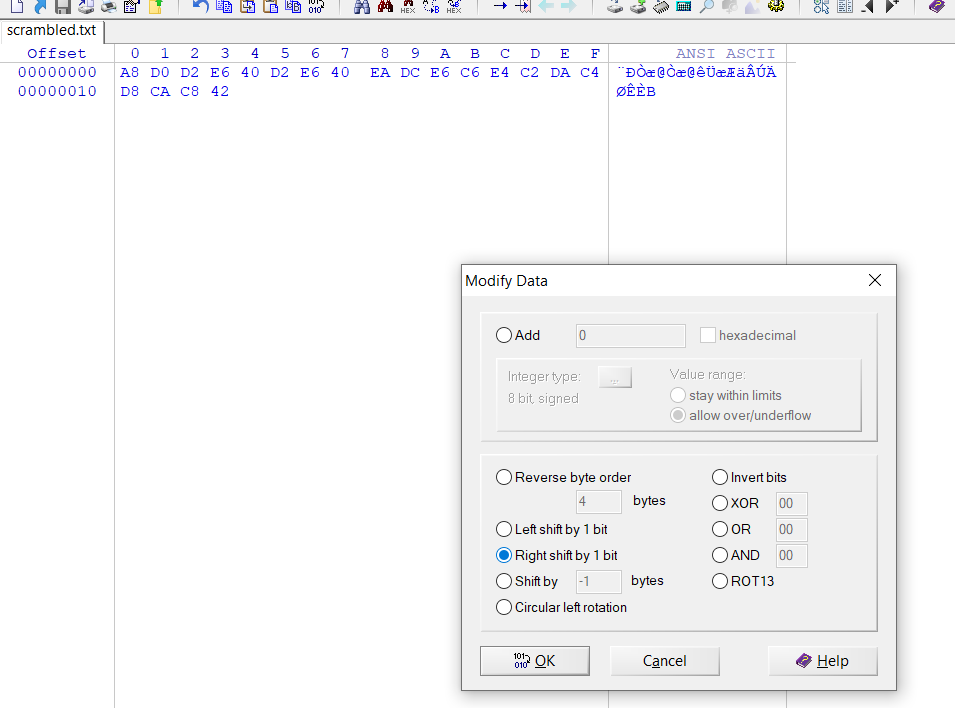
Now, select how you wish to shift the bits. Here I shift bits to the left once.



The file is now scrambled and unreadable.

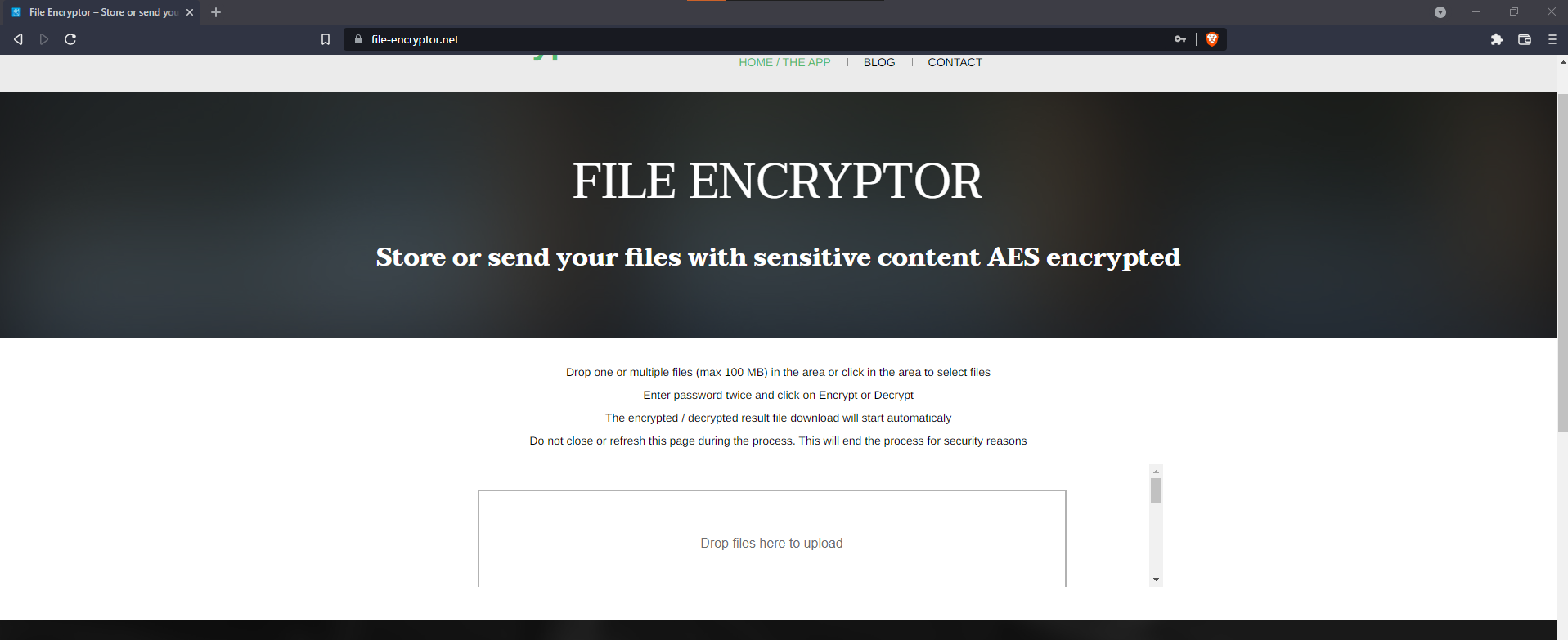


To unscramble, shift the file bits in the other direction. Since we shifted it to the left by one place, we now shift the bits to the right by one place to unscramble.

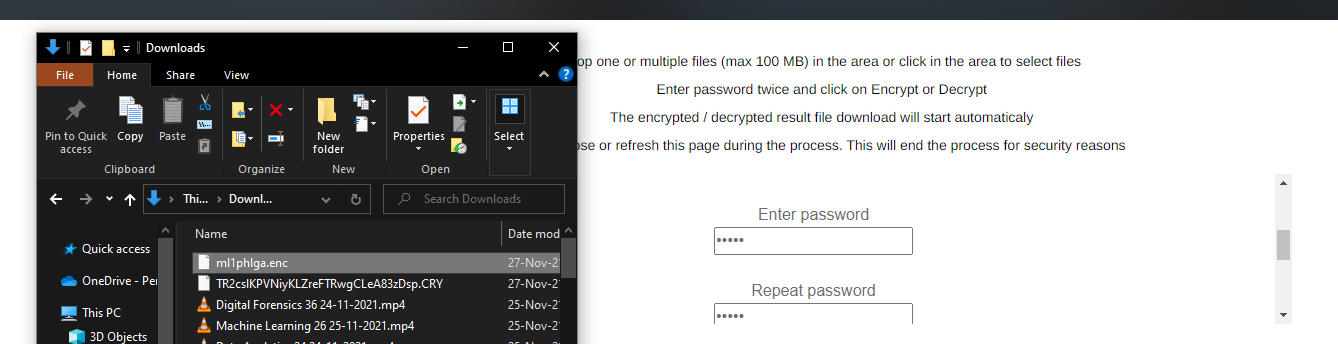


**Encryption**

Visit any online website that does this. Here, file-encryptor.net was used as shown in image.



Drop the file here then scroll down in the iframe to provide password for encryption. Then click Encrypt. A file of extension enc is created. To decrypt this, drop the enc file, enter the password used while encrypting then click Decrypt. The original image is gotten back.



**Password protection**

Windows Home editions do not have this feature available for use. So, we will have to rely on third party tools or find some other way as follows:

1. Create a txt file and paste the following code:

@ECHO OFF

if EXIST "Control Panel.{21EC2020-3AEA-1069-A2DD-08002B30309D}" goto UNLOCK

if NOT EXIST Private goto MDPrivate

:CONFIRM

echo Are you sure to lock this folder? (Y/N)

set/p "cho=>"

if %cho%==Y goto LOCK

if %cho%==y goto LOCK

if %cho%==n goto END

if %cho%==N goto END

echo Invalid choice.

goto CONFIRM

:LOCK

ren Private "Control Panel.{21EC2020-3AEA-1069-A2DD-08002B30309D}"

attrib +h +s "Control Panel.{21EC2020-3AEA-1069-A2DD-08002B30309D}"

echo Folder locked

goto End

:UNLOCK

echo Enter password to Unlock Your Secure Folder

set/p "pass=>"

if NOT %pass%== YOUR-PASSWORD goto FAIL

attrib -h -s "Control Panel.{21EC2020-3AEA-1069-A2DD-08002B30309D}"

ren "Control Panel.{21EC2020-3AEA-1069-A2DD-08002B30309D}" Private

echo Folder Unlocked successfully

goto End

:FAIL

echo Invalid password

goto end

:MDPrivate

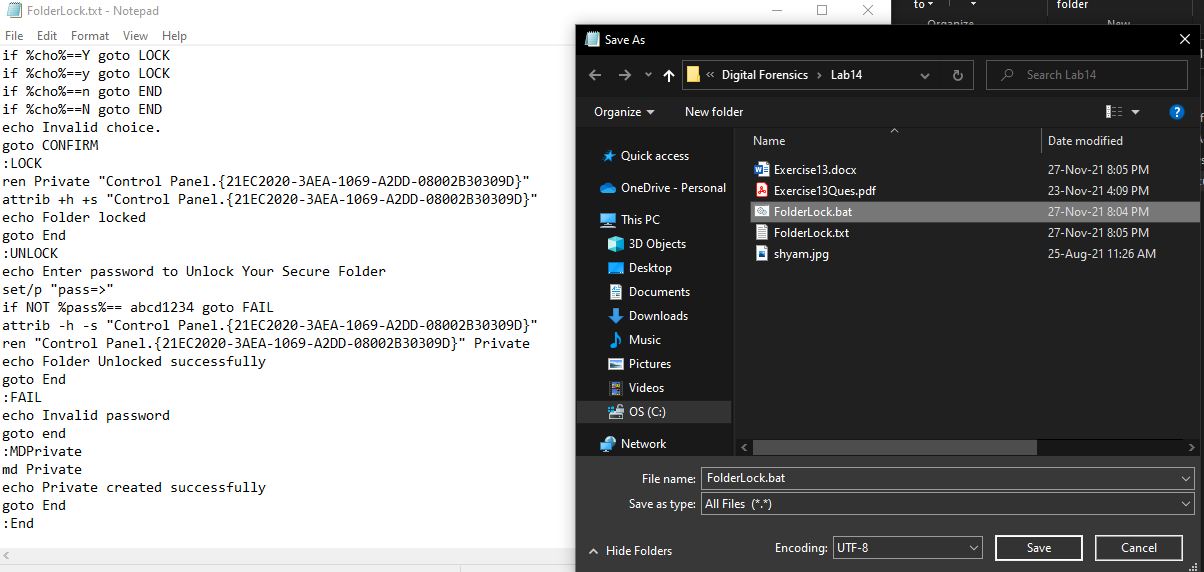
md Private

echo Private created successfully

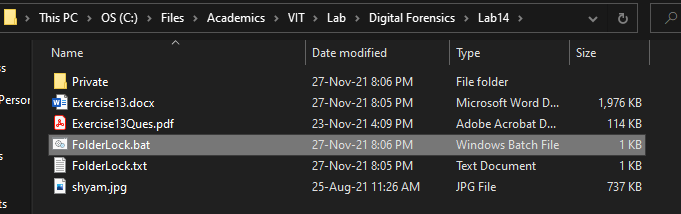
goto End

:End

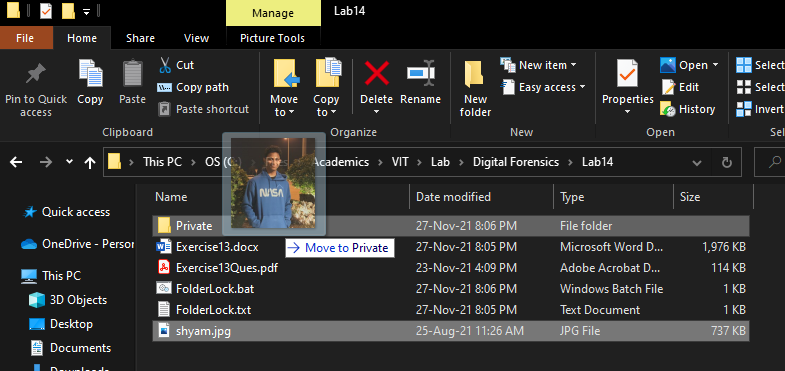
1. In the code above, replace ‘YOUR PASSWORD’ with the password you wish to use.
2. Then save the txt file as a .bat file.



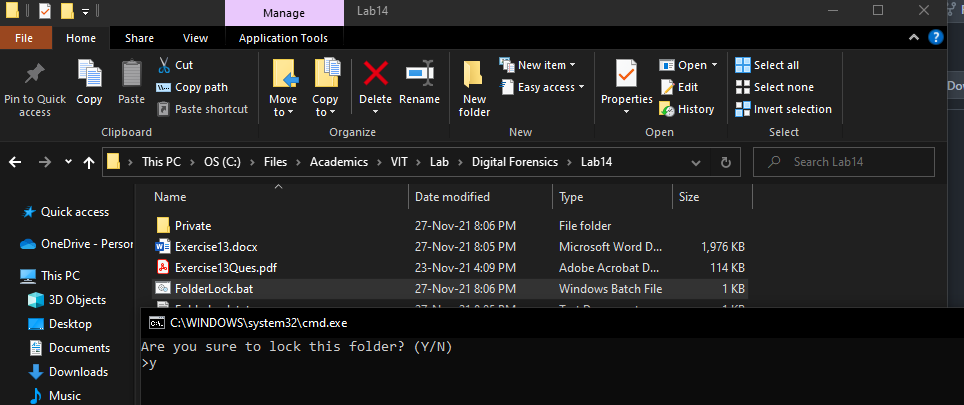
1. Now, double click on the bat file. A folder called ‘Private’ will be created.



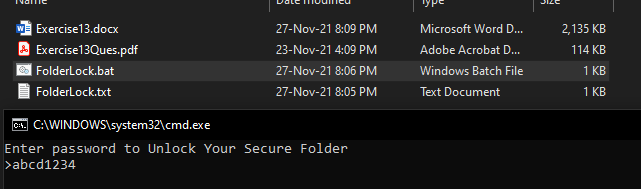
1. Drag and drop the files you want to lock into this ‘Private’ folder.



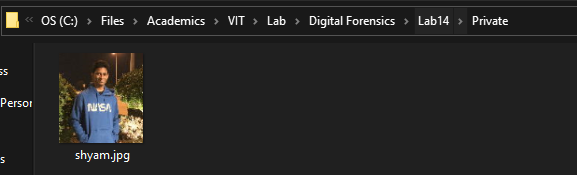
1. Then, again double click on the bat file. A prompt likthis will be presented. Press ‘y’ and Enter.



1. The Private folder now disappears. To view the folder and it’s contents again, double click on the bat file and enter the password.



1. The folder and its contents are now visible again.



**OBSERVATIONS**

In the methods used above, files are either completely hidden from view or were transformed into a form or file type that is not their own, rendering them unreadable. In some methods, the data within the file is scrambled to render them as nonsense to anyone else.

**CONCLUSION**

Thus, we have explored the various ways to hide files.