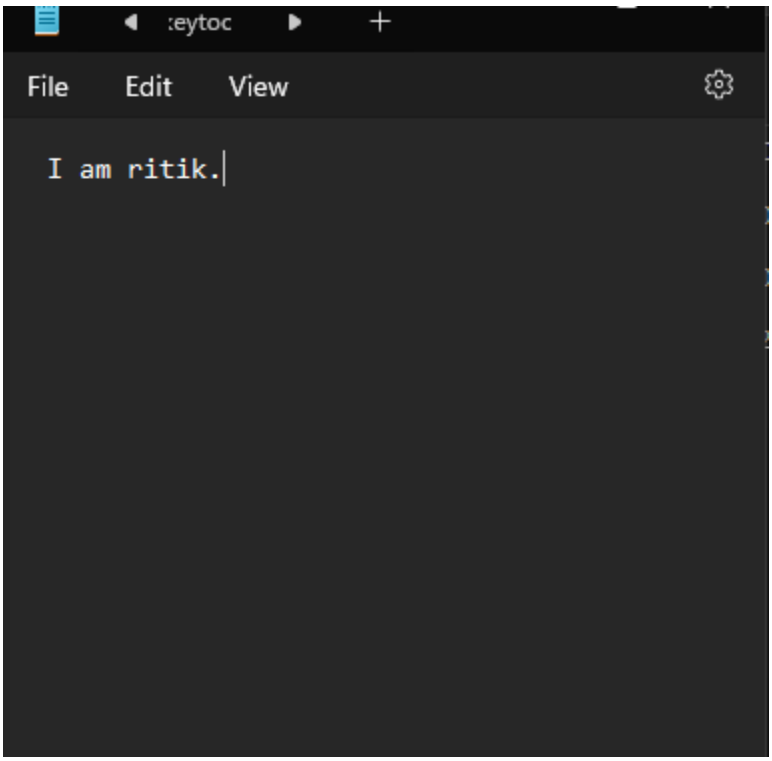
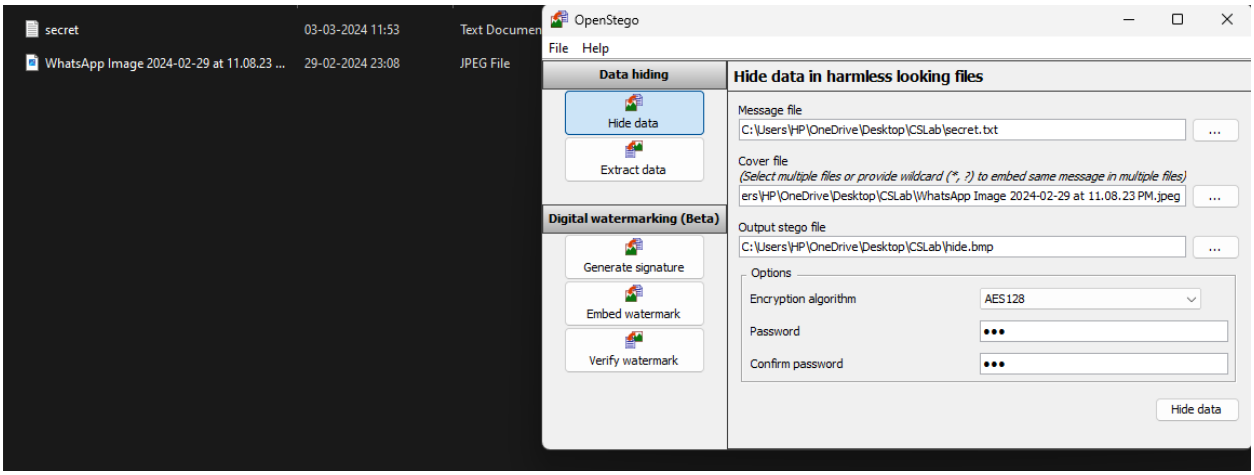
B21CS098
CYBERSECURITY ASSIGNMENT 5

Q1) ENCRYPT THE .TXT FILE INTO THE .PNG FILE (YOU CAN DOWNLOAD ANY IMAGE FROM GOOGLE) AND SAVE IT INSIDE A FOLDER.

Solution: I have encrypted the secret.txt file into some random jpeg file. I have also shown the screenshot for the same.





Q2) PASSWORD PROTECTS YOUR FILE WITH A PASSWORD OF YOUR CHOICE.

Solution: I have used the AES Algorithm to encrypt the text message and add the password for the file so that anyone cannot read the content of it easily.

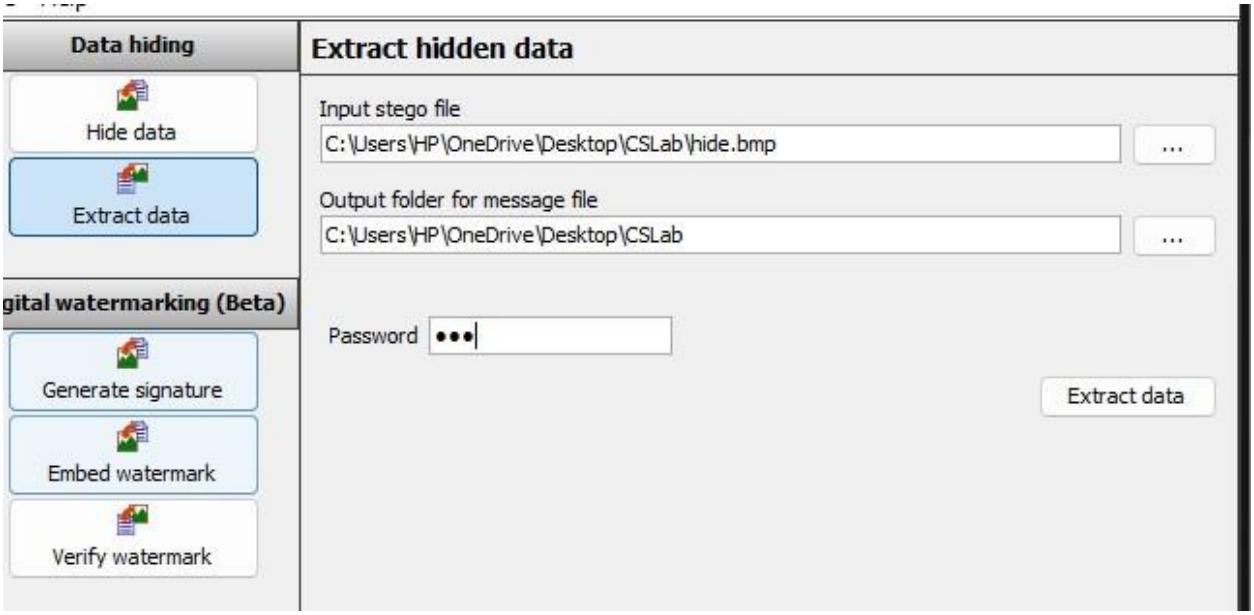
Q3) CONFIRM THE FUNCTIONALITY OF THE STEGANOGRAPHY.

A. FIRST, HIDE THE DATA INSIDE AN IMAGE USING OPENSTAGO

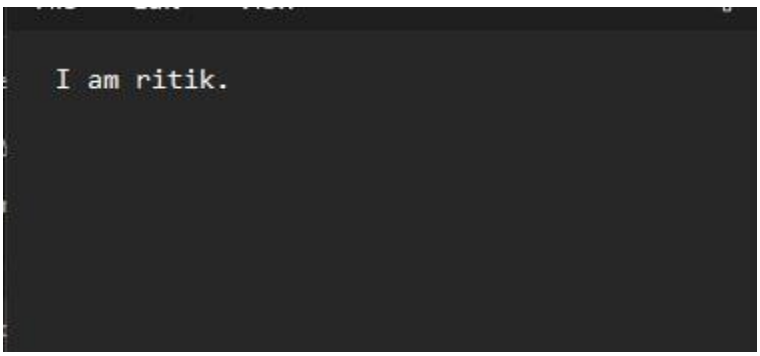
B. SECOND, EXTRACT THE DATA FROM THE ENCRYPTED IMAGE USING OPENSTAGO.

CHECK IF YOU ARE GETTING THE SAME .TXT FILE OR NOT.

Solution: Extract the same encrypted text from the hide.bmp file in a folder named output using the same password which is used at the time of encryption.



I have got the same message as before.



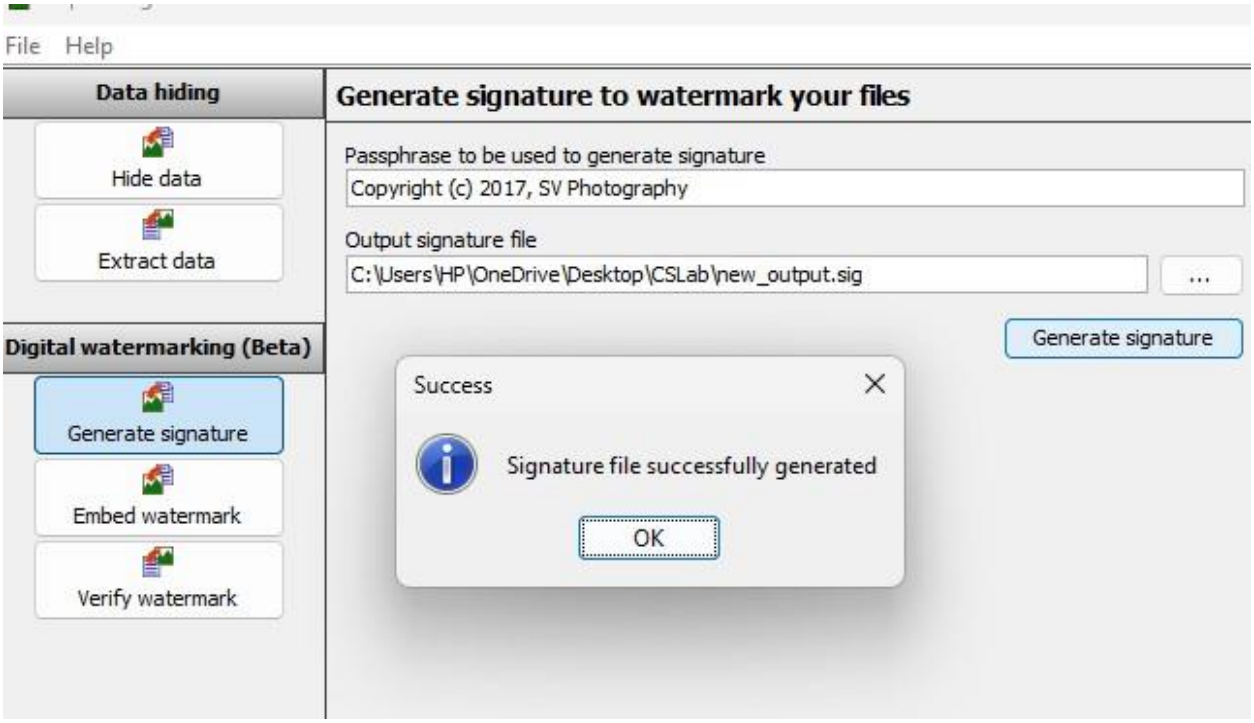
Q4) PERFORM WATERMARKING AS WELL USING OPENSTAGO

A. FIRST, YOU NEED TO GENERATE THE SIGNATURE FILE

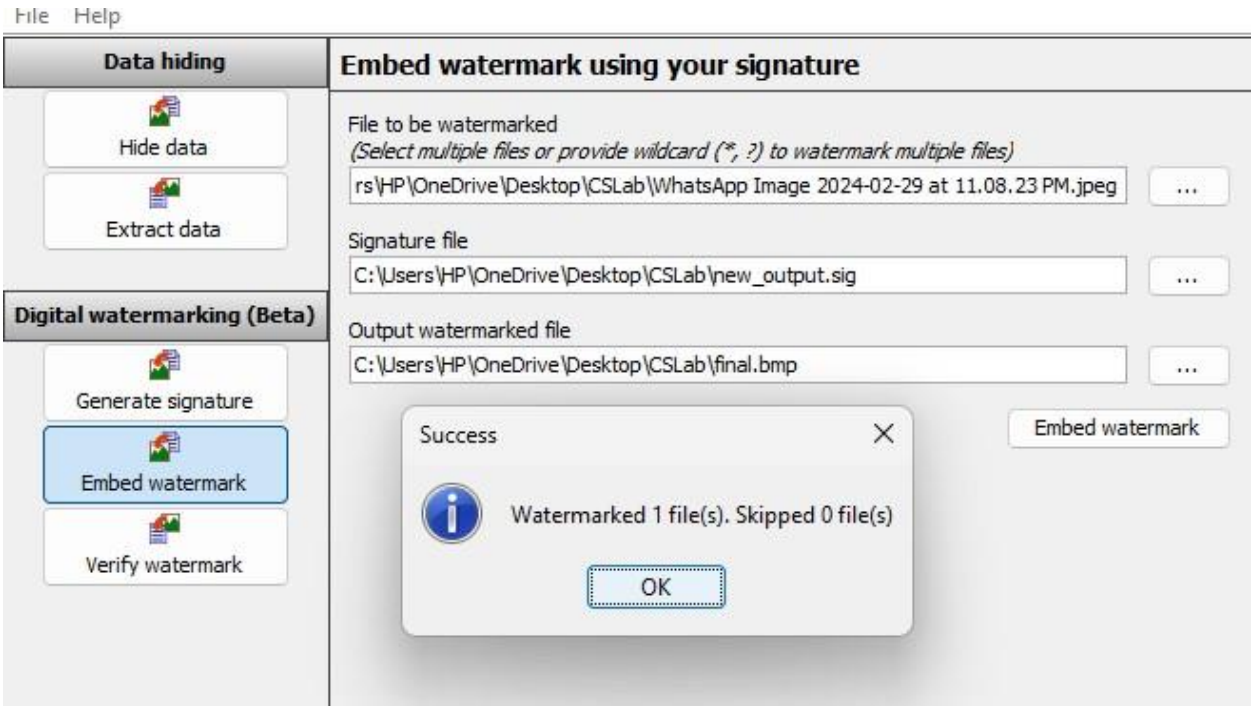
B. THEN, EMBED THE WATERMARK

C. AT LAST, VERIFY THE WATERMARK.

Solution a: I have generated the signature file which have two parameters taken to make the signature 1) Passphrase which to be used to generate signature 2) File name where you save your generated signature file.



b) In the second part I have to embed the signature file to any image and create a .bmp file which contains the original signature and the image file.



c) In this part I must verify the watermark which I have created earlier and, in this case, I got the 62 percent strength of the watermark that has been verified.