

# CYSE 301: Cybersecurity Technique and Operations Assignment

## M6: Digital Steganography

(Total 100 Points)

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For this assignment, PDF submission is allowed. Each student must submit the pdf file containing the answers to the following questions to get full credit.

### Lab Preparation:

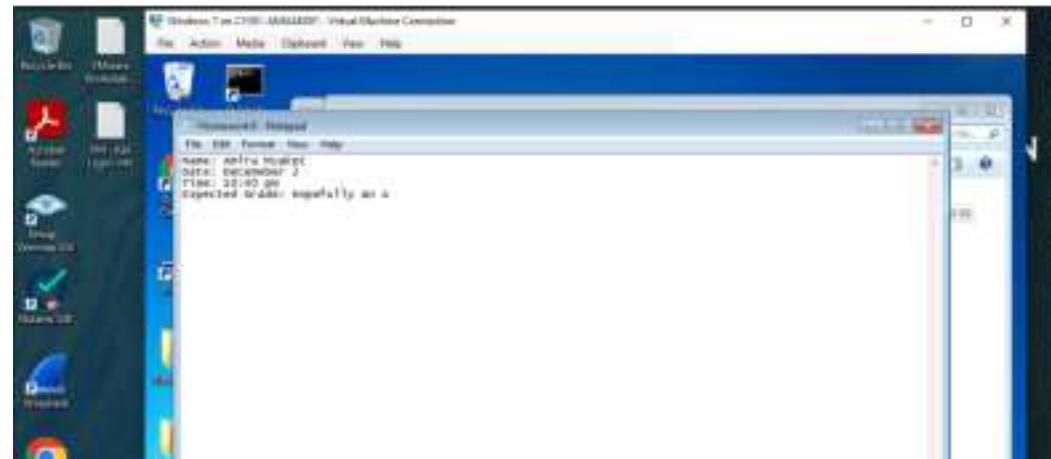
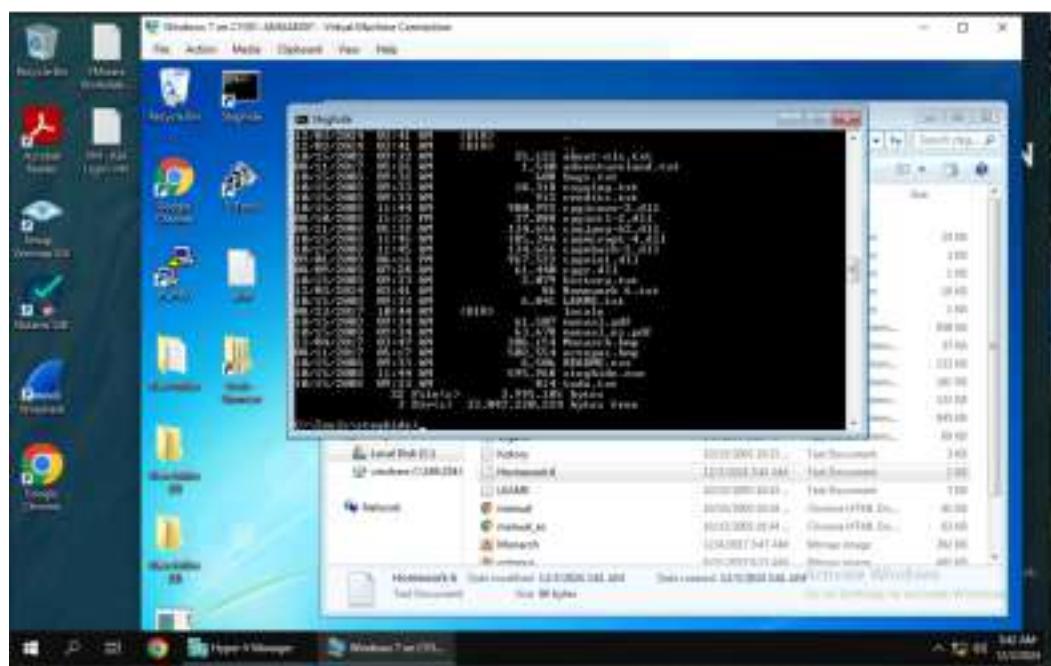
- Access a Windows7 VM in CCIA .

### Assignment details:

You need to use **steghide**, not **s-tools** to complete this assignment. Your local path may be different depending on the folder where you extract the executable file. Make sure you are working on the right directory.

1. **[10 Points]** Create a text file containing the answers to the following questions:

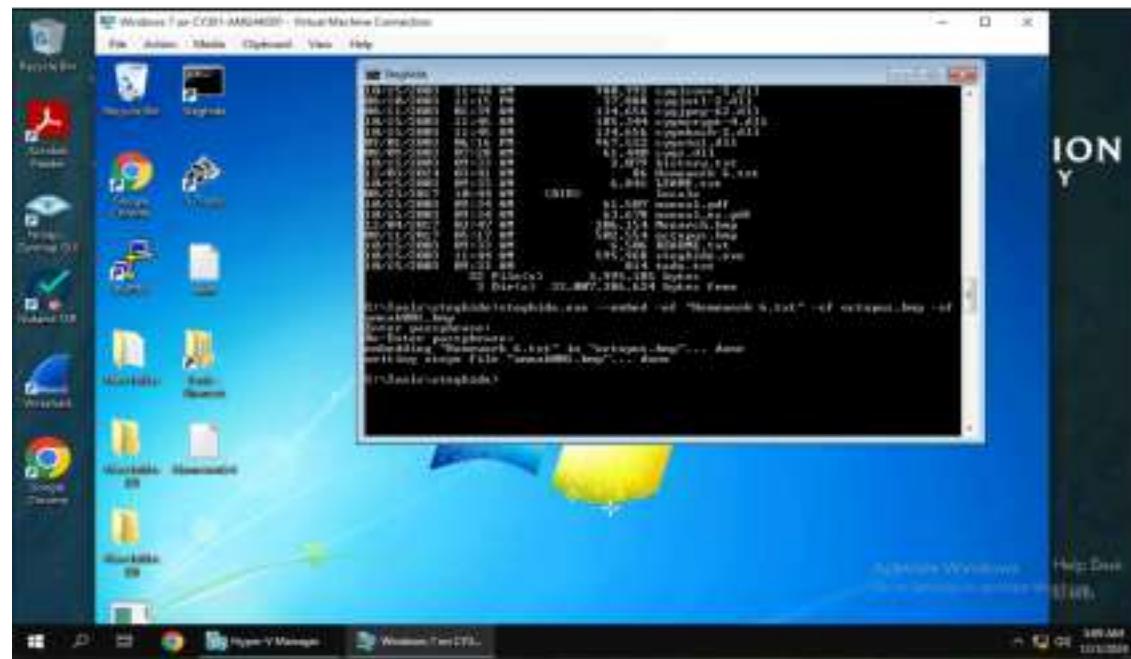
- What are your name and current date and timestamp?
- What is your expected grade in this course?



I created a new text file called "Homework 6" and placed it in the steghide folder. Then used "dir" to make sure the file is present.

2. **[50 Points]** Use steghide to hide this text file in the cover image, " octopus.bmp."

- Use your own **UIN** (for example, **01000123**) as the password for encryption (you can choose any encryption algorithm from the given options).



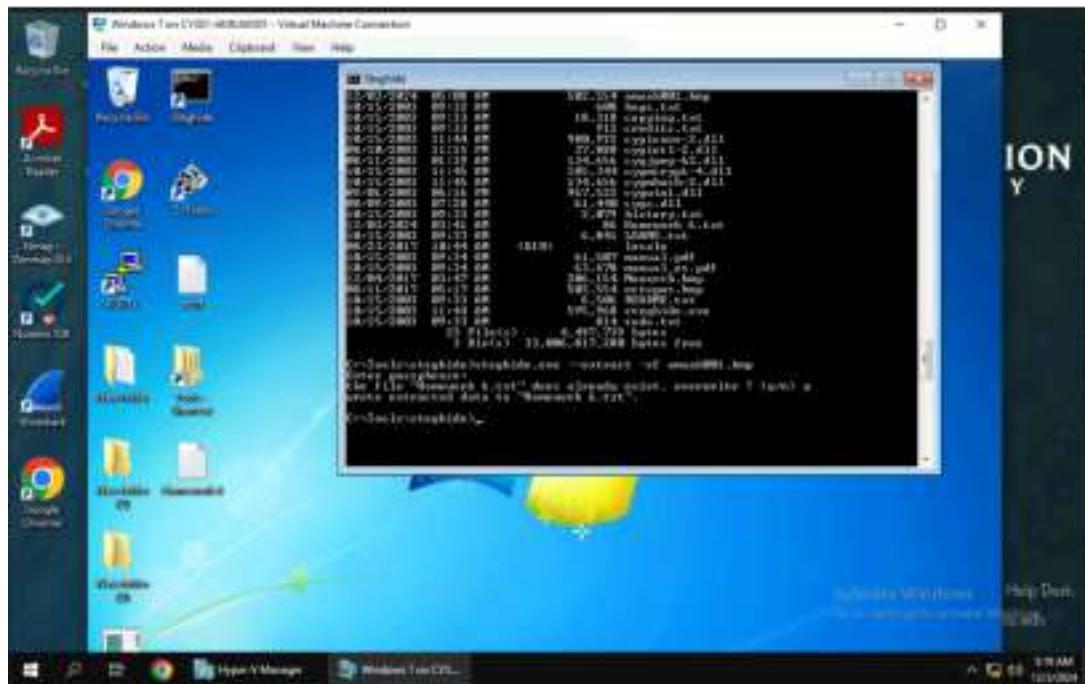
- Use your **Midas ID** (all lowercase) for example "**svatsa.bmp**" as the name of the STEGO file.



I used “steghide.exe –embed -ef “Homework 6.txt” -cf octopus.bmp -sf amuak001.bmp”, used my student ID as my password “01271458”. Then verified using dir.

3. **[20 Points]** Extract the secret message by executing steghide command with - - extract option as follows:

```
C:\Tools\steghide>steghide.exe --extract -sf svatsa.bmp
Enter passphrase:
```



I used "steghide.exe --extract --sf amuak001.bmp"

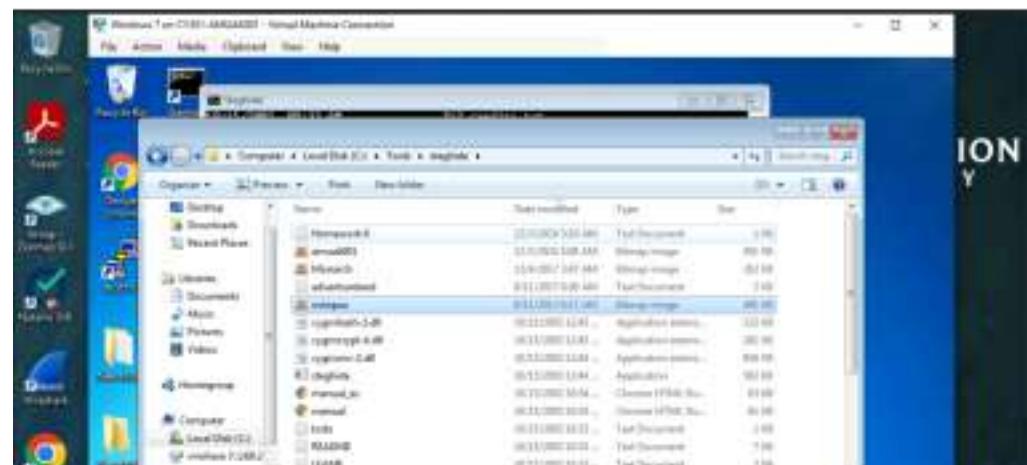
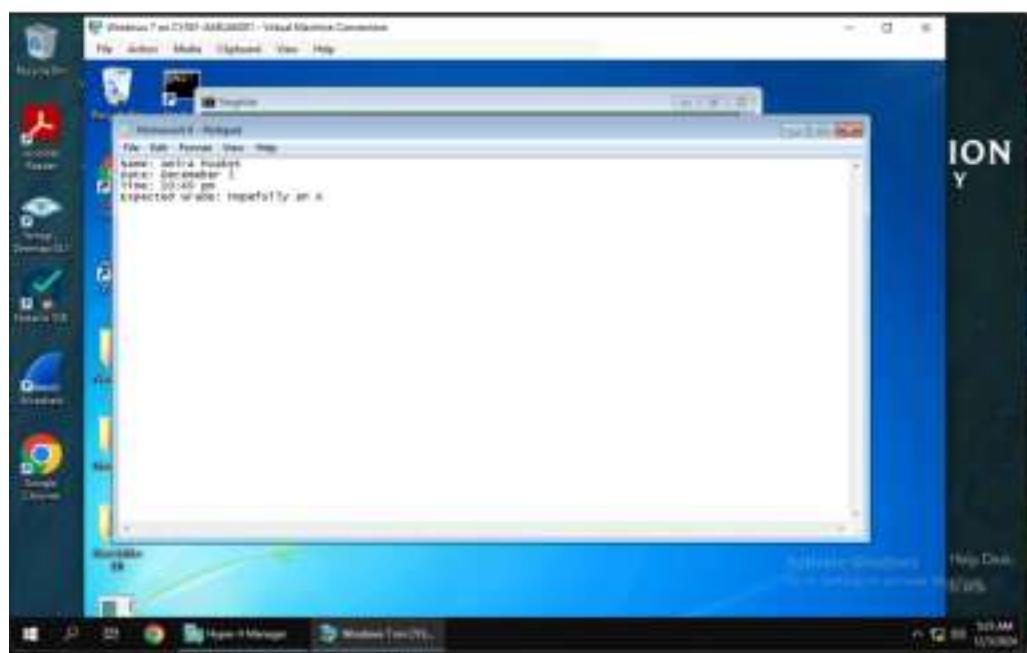
4. [10 Points] Execute the command to list the contents to verify whether the textfile with secret message has been extracted or not.

You should see `textfile` there because it was hidden in the jpeg image file and appeared after extracting the image file in the previous step.



I used "dir" to verify the file by its time stamp.

5. [10 Points] Execute the command to display the contents of the file you revealed.



To verify the contents, I went on the steghide file, clicked on “Date modified”. Then clicked on “Homework 6” to make sure my file is accessible.