

CYSE 301: Cybersecurity Technique and Operations

Assignment M6: Digital Steganography

Michael Dawson 12/3/24

(Total 100 Points)

Lab Preparation:

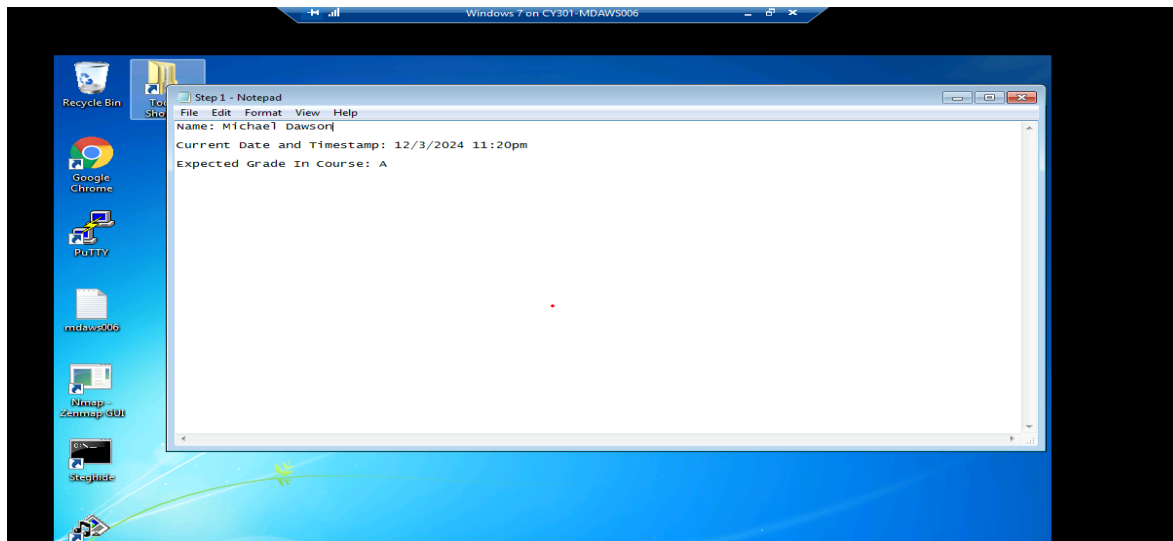
- Access a Windows7 VM in CCIA .

Assignment details:

You need to use **steghide**, not ~~s-tool~~ 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.

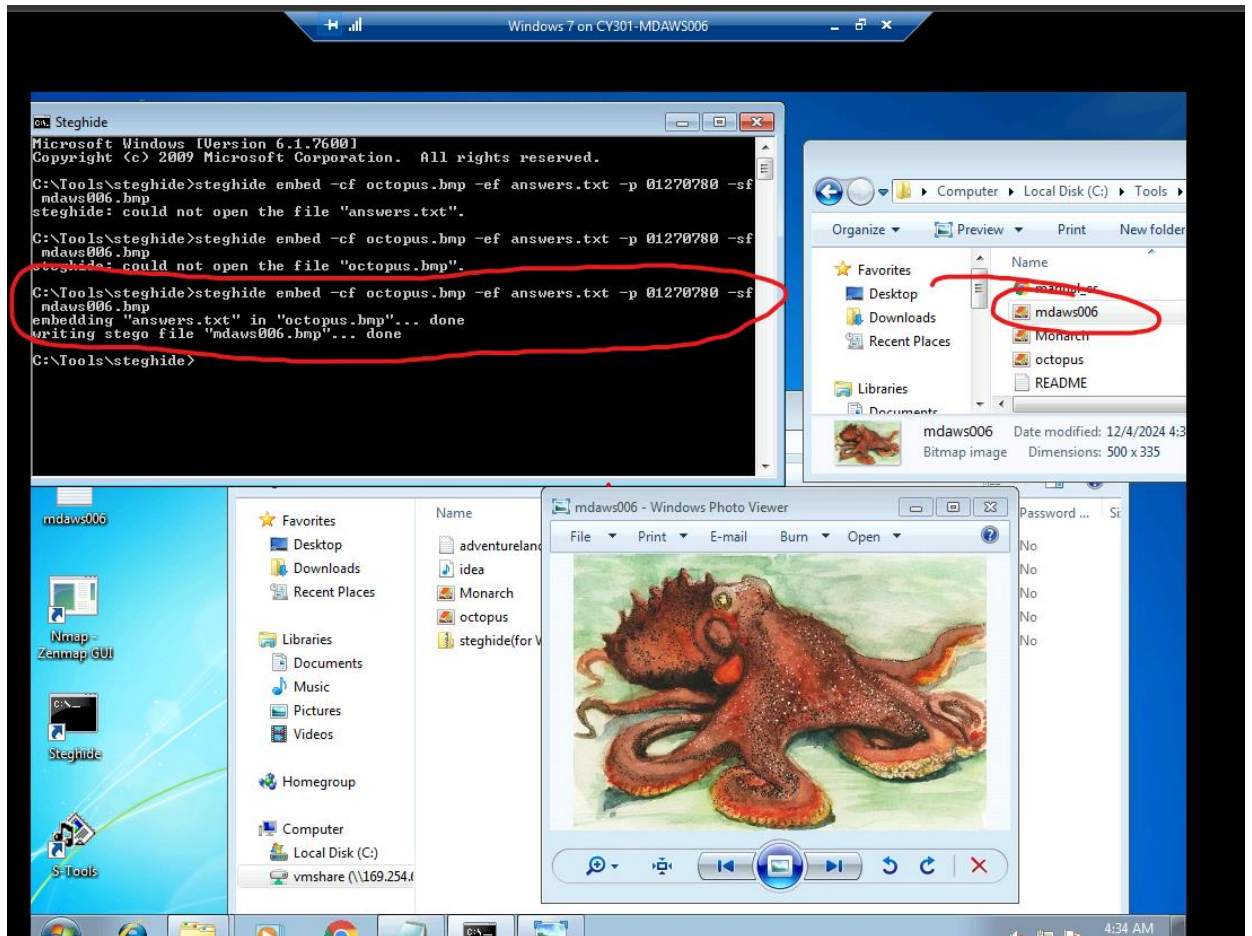
1. [10 Points] Create a text file containing the answers to the following questions:

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



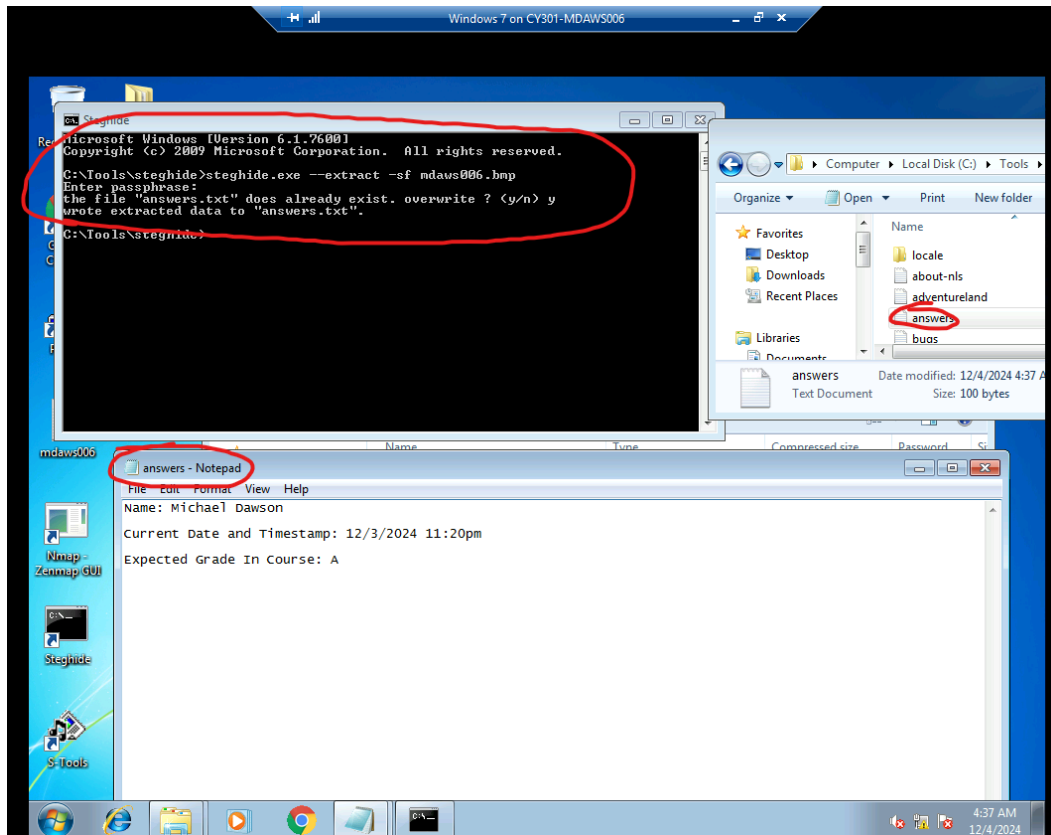
2. [50 Points] Use steghide to hide this text file in the cover image, " octopus.bmp."

- 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.



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:
```



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 text file there because it was hidden in the jpeg image file and appeared after extracting the image file in the previous step.

```
Windows 7 on CY301-MDAWS006

C:\Tools\steghide>steghide.exe --extract -sf mdaws006.bmp
Enter passphrase:
the file "answers.txt" does already exist. overwrite ? (y/n) y
wrote extracted data to "answers.txt".

C:\Tools\steghide>dir
Volume in drive C has no label.
Volume serial number is 70C4-E2E4

Directory of C:\Tools\steghide

12/04/2024 04:33 AM <DIR> .
12/04/2024 04:33 AM <DIR> ..
10/15/2003 09:32 AM          25,122 about-nls.txt
12/04/2024 04:32 AM          1,540 aduentuxland.txt
12/04/2024 04:37 AM           100 answers.txt
10/15/2003 09:32 AM           608 bugs.txt
10/15/2003 09:33 AM          18,318 copying.txt
10/15/2003 09:33 AM           912 credits.txt
10/15/2003 11:44 AM          980,992 cygiconv-2.dll
08/10/2003 11:15 PM          37,888 cygintl-2.dll
08/11/2003 01:39 AM          134,656 cygjpeg-62.dll
10/15/2003 11:45 AM          185,344 cygmcrpyt-4.dll
10/15/2003 11:45 AM          134,656 cygmhash-2.dll
09/01/2003 06:16 PM          967,522 cygwini.dll
08/09/2003 07:28 AM           61,440 cygz.dll
10/15/2003 09:33 AM           2,079 history.txt
12/04/2024 04:32 AM          24,552 idea.wav
10/15/2003 09:33 AM           6,841 LEAME.txt
08/23/2017 10:44 AM <DIR> locale
10/15/2003 09:34 AM           61,507 manual.pdf
10/15/2003 09:34 AM           63,678 manual_es.pdf
12/04/2024 04:33 AM          502,554 mdaws006.bmp
12/04/2024 04:32 AM          206,154 Monarch.bmp
12/04/2024 04:32 AM          502,554 octopus.bmp
10/15/2003 09:33 AM           6,506 README.txt
12/04/2024 04:32 AM          1,807,367 steghide(for Windows).zip
10/15/2003 11:44 AM          595,968 steghide.exe
10/15/2003 09:33 AM           814 todo.txt
25 File(s)          6,329,672 bytes
3 Dir(s)           33,073,283,072 bytes free
```

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

```
C:\Tools\steghide>type answers.txt
Name: Michael Dawson

Current Date and Timestamp: 12/3/2024 11:20pm

Expected Grade In Course: A
C:\Tools\steghide>
```