

CYSE 301: Cybersecurity Technique and Operations

Assignment M6: Digital Steganography

(Total 100 Points)

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:

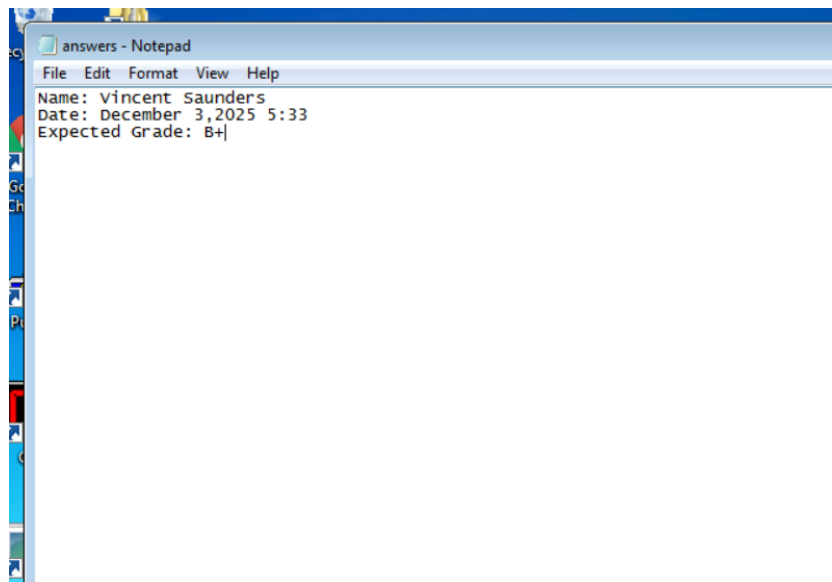
- Access a Windows7 VM in CCIA .

Assignment details:

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

```

C:\Tools\steghide>steghide embed -cf octopus.bmp -ef answers.txt -sf vsaun005.bmp -p 01222964
embedding "answers.txt" in "octopus.bmp"... done
the file "vsaun005.bmp" does already exist. overwrite ? <y/n> y
writing stego file "vsaun005.bmp"... done
C:\Tools\steghide>

```

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

```

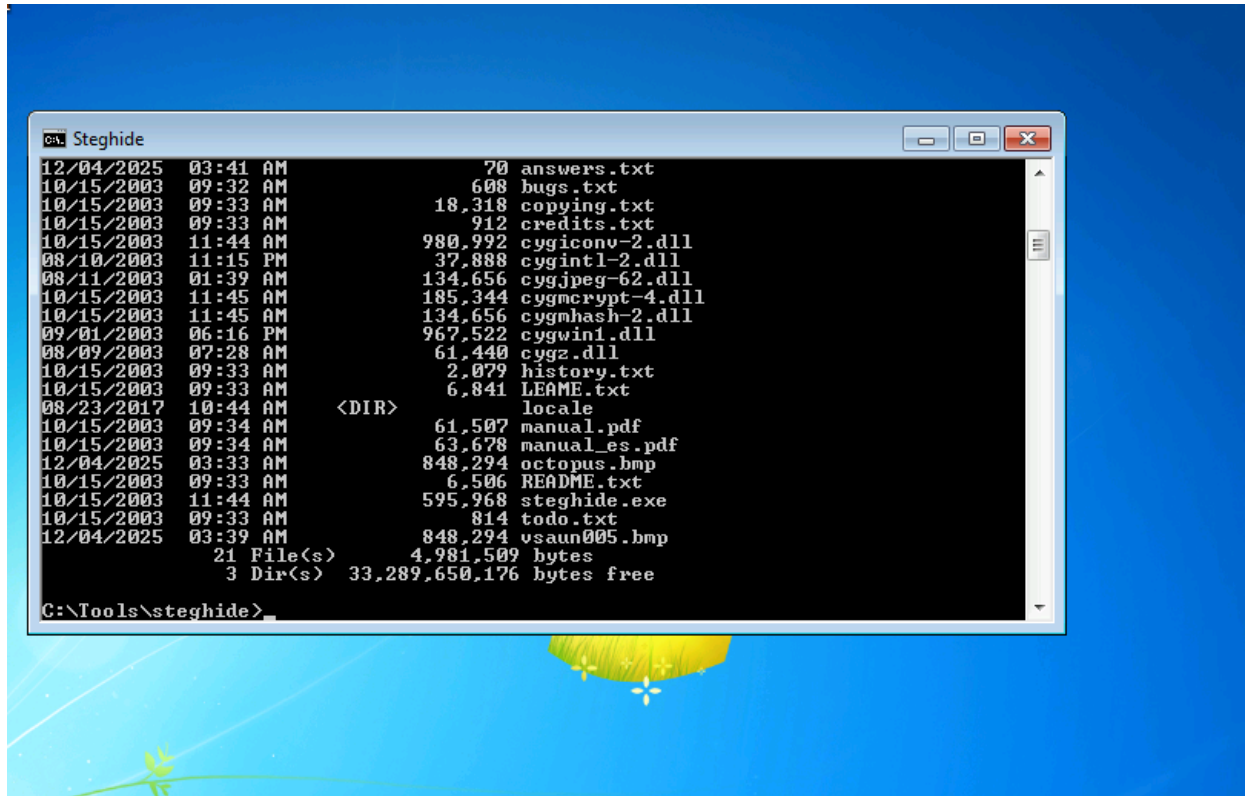
C:\Tools\steghide>steghide.exe --extract -sf octopus.bmp
Enter passphrase:
the file "adventureland.txt" does already exist. overwrite ? <y/n> _

C:\Tools\steghide>steghide.exe extract -sf vsaun005.bmp
Enter passphrase:
the file "answers.txt" does already exist. overwrite ? <y/n> y
wrote extracted data to "answers.txt".
C:\Tools\steghide>_

```

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.



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

```
Steghide
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 cygmcrpt-4.dll
10/15/2003 11:45 AM 134,656 cygmhash-2.dll
09/01/2003 06:16 PM 967,522 cygwin1.dll
08/09/2003 07:28 AM 61,440 cygz.dll
10/15/2003 09:33 AM 2,079 history.txt
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
12/04/2025 03:33 AM 848,294 octopus.bmp
10/15/2003 09:33 AM 6,506 README.txt
10/15/2003 11:44 AM 595,968 steghide.exe
10/15/2003 09:33 AM 814 todo.txt
12/04/2025 03:39 AM 848,294 usaun005.bmp
21 File(s) 4,981,509 bytes
3 Dir(s) 33,289,650,176 bytes free

C:\Tools\steghide>type answers.txt
Name: Vincent Saunders
Date: December 3,2025 5:33
Expected Grade: B+
C:\Tools\steghide>
```