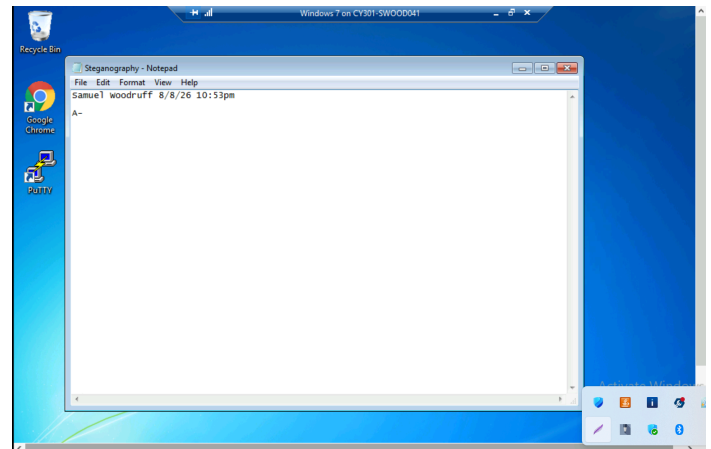


Task A:

According to the course modules, the key difference between cryptography and steganography is that one encrypts whereas the other one hides completely. In cryptography, the data is scrambled/encrypted but its existence is still known. In steganography, the existence of the data isn't known.

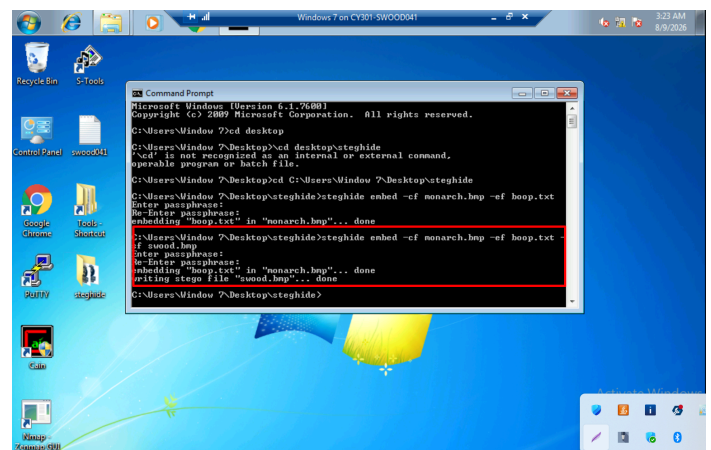
Task B:

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.

a/b/c) Use steghide to hide this text file in the cover image, " Monarch.bmp.", which you can find in Windows7 under VMShare folder--> Lab-Resources--> Module 6. Use your Midas ID (all lowercase) as "YourName.bmp" for example "svatsa.bmp" as the name of the STEGO file. Use your own UIN (for example, 01000123) as the password.



d) List the contents of the current directory/folder to verify if the stego file is created or not.

```

C:\Users\Window 7\Desktop\steghide>steghide embed -cf monarch.bmp -ef hoop.txt -sf swood.bmp
Enter passphrase:
Re-Enter passphrase:
embedding "hoop.txt" in "monarch.bmp"... done
writing stego file "swood.bmp"... done

C:\Users\Window 7\Desktop\steghide>dir
Volume in drive C has no label.
Volume Serial Number is 78C4-E2E4

Directory of C:\Users\Window 7\Desktop\steghide

08/09/2026 03:23 AM <DIR> .
08/09/2026 03:23 AM <DIR> ..
08/09/2026 03:05 AM 25,122 about-nls.txt
08/11/2017 06:26 AM 1,540 adventureland.txt
08/09/2026 03:12 AM 36 hoop.txt
08/09/2026 03:05 AM 608 bugs.txt
08/09/2026 03:05 AM 18,318 copying.txt
08/09/2026 03:05 AM 912 credits.txt
08/09/2026 03:05 AM 980,992 cygconv-2.dll
08/09/2026 03:05 AM 37,888 cygintl-2.dll
08/09/2026 03:05 AM 134,656 cygjpeg-62.dll
08/09/2026 03:05 AM 185,344 cygmcrpt-4.dll
08/09/2026 03:05 AM 134,656 cygmhash-2.dll
08/09/2026 03:05 AM 967,522 cygwin1.dll
08/09/2026 03:05 AM 61,440 cygz.dll
08/09/2026 03:05 AM 2,079 history.txt
08/09/2026 03:05 AM 6,841 LEAME.txt
08/09/2026 03:05 AM <DIR> locale
08/09/2026 03:05 AM 61,507 manual.pdf
08/09/2026 03:05 AM 63,678 manual.es.pdf
08/09/2026 03:17 AM 286,154 monarch.bmp
08/11/2017 06:17 AM 582,554 octopus.bmp
08/09/2026 03:05 AM 6,506 README.txt
08/09/2026 03:05 AM 595,968 steghide.exe
08/09/2026 03:23 AM 286,154 swood.bmp
08/09/2026 03:05 AM 814 todo.txt
23 File(s) 4,201,289 bytes
3 Dir(s) 33,025,077,248 bytes free

C:\Users\Window 7\Desktop\steghide>_

```

3. [20 Points] Extract the secret message by executing steghide command and save in a file named “extracted_YourName.txt”.

```

C:\Users\Window 7\Desktop\steghide>steghide embed -cf monarch.bmp -ef hoop.txt -sf swood.bmp
Enter passphrase:
Re-Enter passphrase:
embedding "hoop.txt" in "monarch.bmp"... done
writing stego file "swood.bmp"... done

C:\Users\Window 7\Desktop\steghide>dir
Volume in drive C has no label.
Volume Serial Number is 78C4-E2E4

Directory of C:\Users\Window 7\Desktop\steghide

08/09/2026 03:23 AM <DIR> .
08/09/2026 03:23 AM <DIR> ..
08/09/2026 03:05 AM 25,122 about-nls.txt
08/11/2017 06:26 AM 1,540 adventureland.txt
08/09/2026 03:12 AM 36 hoop.txt
08/09/2026 03:05 AM 608 bugs.txt
08/09/2026 03:05 AM 18,318 copying.txt
08/09/2026 03:05 AM 912 credits.txt
08/09/2026 03:05 AM 980,992 cygconv-2.dll
08/09/2026 03:05 AM 37,888 cygintl-2.dll
08/09/2026 03:05 AM 134,656 cygjpeg-62.dll
08/09/2026 03:05 AM 185,344 cygmcrpt-4.dll
08/09/2026 03:05 AM 134,656 cygmhash-2.dll
08/09/2026 03:05 AM 967,522 cygwin1.dll
08/09/2026 03:05 AM 61,440 cygz.dll
08/09/2026 03:05 AM 2,079 history.txt
08/09/2026 03:05 AM 6,841 LEAME.txt
08/09/2026 03:05 AM <DIR> locale
08/09/2026 03:05 AM 61,507 manual.pdf
08/09/2026 03:05 AM 63,678 manual.es.pdf
08/09/2026 03:17 AM 286,154 monarch.bmp
08/11/2017 06:17 AM 582,554 octopus.bmp
08/09/2026 03:05 AM 6,506 README.txt
08/09/2026 03:05 AM 595,968 steghide.exe
08/09/2026 03:23 AM 286,154 swood.bmp
08/09/2026 03:05 AM 814 todo.txt
23 File(s) 4,201,289 bytes
3 Dir(s) 33,025,077,248 bytes free

C:\Users\Window 7\Desktop\steghide>steghide extract -sf swood.bmp -xf extracted_
SameUserbuff.txt
Enter passphrase:
wrote extracted data to "extracted_SamuelWoodruff.txt".

C:\Users\Window 7\Desktop\steghide>_

```

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

```

C:\Users\Window 7\Desktop\steghide>steghide extract -sf swood.bmp -xf extracted_
SameUserbuff.txt
Enter passphrase:
wrote extracted data to "extracted_SamuelWoodruff.txt".

C:\Users\Window 7\Desktop\steghide>dir
Volume in drive C has no label.
Volume Serial Number is 78C4-E2E4

Directory of C:\Users\Window 7\Desktop\steghide

08/09/2026 03:28 AM <DIR> .
08/09/2026 03:28 AM <DIR> ..
08/09/2026 03:05 AM 25,122 about-nls.txt
08/11/2017 06:26 AM 1,540 adventureland.txt
08/09/2026 03:12 AM 36 hoop.txt
08/09/2026 03:05 AM 608 bugs.txt
08/09/2026 03:05 AM 18,318 copying.txt
08/09/2026 03:05 AM 912 credits.txt
08/09/2026 03:05 AM 980,992 cygconv-2.dll
08/09/2026 03:05 AM 37,888 cygintl-2.dll
08/09/2026 03:05 AM 134,656 cygjpeg-62.dll
08/09/2026 03:05 AM 185,344 cygmcrpt-4.dll
08/09/2026 03:05 AM 134,656 cygmhash-2.dll
08/09/2026 03:05 AM 967,522 cygwin1.dll
08/09/2026 03:05 AM 61,440 cygz.dll
08/09/2026 03:28 AM 36 extracted_SamuelWoodruff.txt
08/09/2026 03:05 AM 2,079 history.txt
08/09/2026 03:05 AM 6,841 LEAME.txt
08/09/2026 03:05 AM <DIR> locale
08/09/2026 03:05 AM 61,507 manual.pdf
08/09/2026 03:05 AM 63,678 manual.es.pdf
08/09/2026 03:17 AM 286,154 monarch.bmp
08/11/2017 06:17 AM 582,554 octopus.bmp
08/09/2026 03:05 AM 6,506 README.txt
08/09/2026 03:05 AM 595,968 steghide.exe
08/09/2026 03:23 AM 286,154 swood.bmp
08/09/2026 03:05 AM 814 todo.txt
24 File(s) 4,201,325 bytes
3 Dir(s) 33,025,077,248 bytes free

C:\Users\Window 7\Desktop\steghide>_

```

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

```
Command Prompt
C:\Users\Window 7\Desktop\steghide>steghide extract -sf sword.bmp -xf extracted_
SamuelWoodruff.txt
Enter passphrase:
wrote extracted data to "extracted_SamuelWoodruff.txt".

C:\Users\Window 7\Desktop\steghide>dir
Volume in drive C has no label.
Volume Serial Number is 70C4-E2E4

Directory of C:\Users\Window 7\Desktop\steghide

08/09/2026 03:28 AM <DIR> .
08/09/2026 03:28 AM <DIR> ..
08/09/2026 03:05 AM          25,122 about-nls.txt
08/11/2017 06:26 AM          1,540 adventureland.txt
08/09/2026 03:12 AM             36 boop.txt
08/09/2026 03:05 AM             608 bugs.txt
08/09/2026 03:05 AM          18,318 copying.txt
08/09/2026 03:05 AM             912 credits.txt
08/09/2026 03:05 AM          980,992 cygiconv-2.dll
08/09/2026 03:05 AM          37,888 cygintl-2.dll
08/09/2026 03:05 AM          134,656 cygjpeg-62.dll
08/09/2026 03:05 AM          185,344 cygncrypt-4.dll
08/09/2026 03:05 AM          134,656 cygncrypt-2.dll
08/09/2026 03:05 AM          967,522 cygwin1.dll
08/09/2026 03:05 AM             61,440 cygwin.dll
08/09/2026 03:28 AM             36 extracted_SamuelWoodruff.txt
08/09/2026 03:05 AM             2,079 history.txt
08/09/2026 03:05 AM             6,841 README.txt
08/09/2026 03:05 AM <DIR> locale
08/09/2026 03:05 AM          61,507 manual.pdf
08/09/2026 03:05 AM          63,670 manual.es.pdf
08/09/2026 03:17 AM          206,154 Monarch.bmp
08/11/2017 06:17 AM          502,554 octopus.bmp
08/09/2026 03:05 AM             6,506 README.txt
08/09/2026 03:05 AM          595,968 steghide.exe
08/09/2026 03:23 AM          206,154 sword.bmp
08/09/2026 03:05 AM             814 todo.txt
                24 File(s)      4,201,325 bytes
                 3 Dir(s)      33,025,077,248 bytes free

C:\Users\Window 7\Desktop\steghide>type extracted_SamuelWoodruff.txt
Samuel Woodruff 8/8/26 10:53pm
A-
C:\Users\Window 7\Desktop\steghide>
```