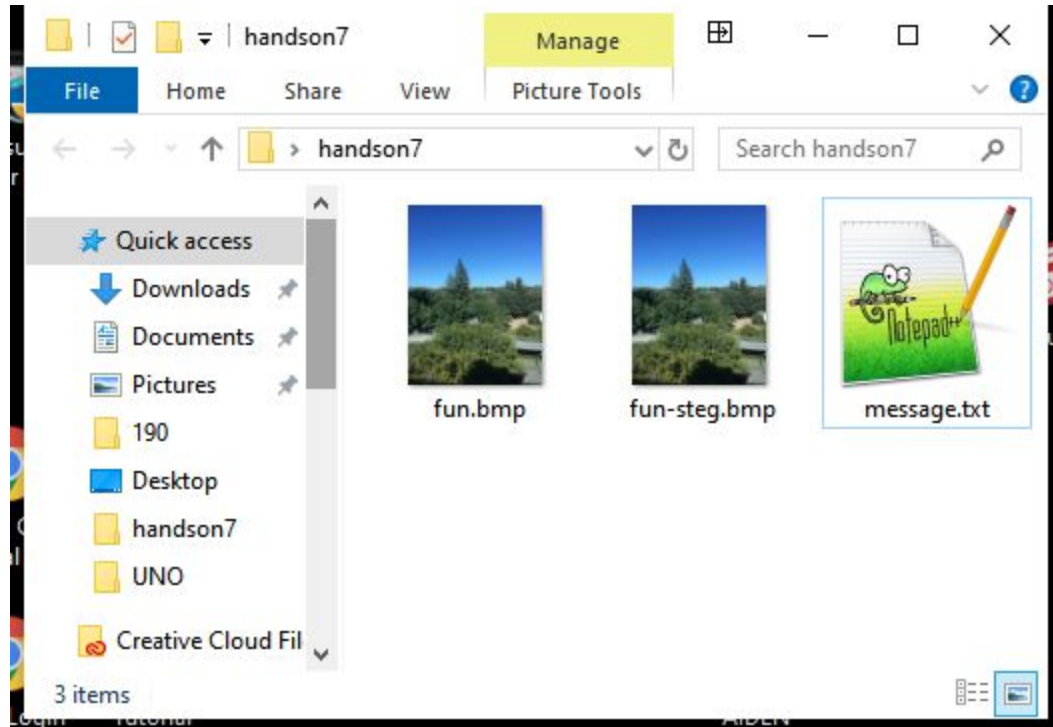


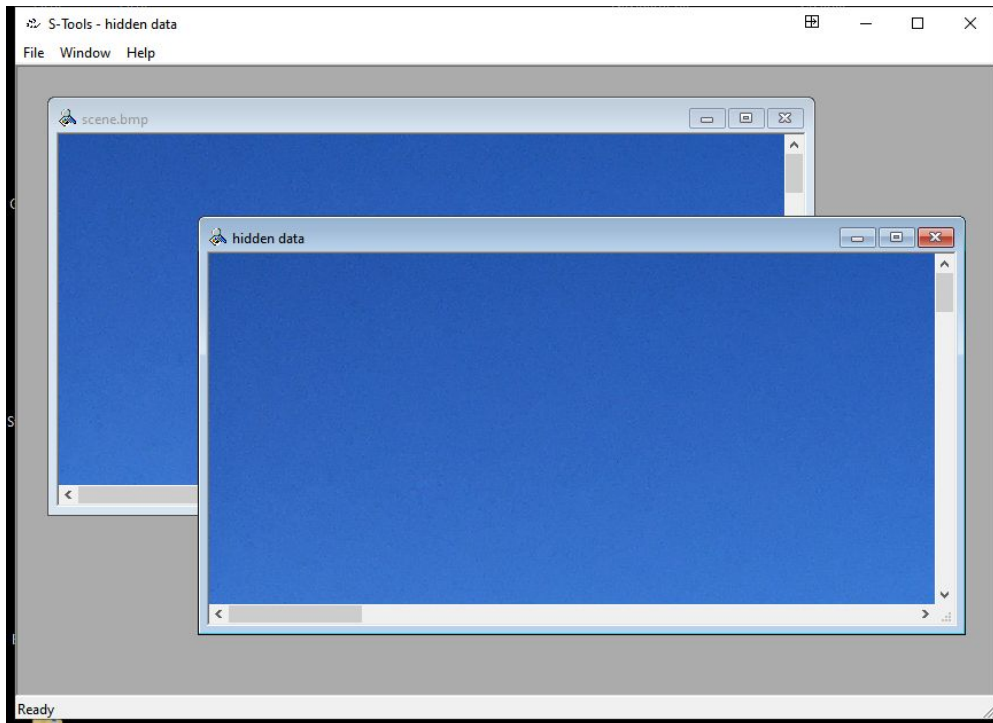
CSC 153 Hands On 7
Rongguang Ou
Curtis Botonis

Part 2: generate created fun-steg.bmp



Part 3

Loaded hidden.rtf to scene.bmp



Created scene-compare.txt

```

C:\Users\DIAO\Desktop\handson7>dir
Volume in drive C has no label.
Volume Serial Number is E49C-BCF2

Directory of C:\Users\DIAO\Desktop\handson7

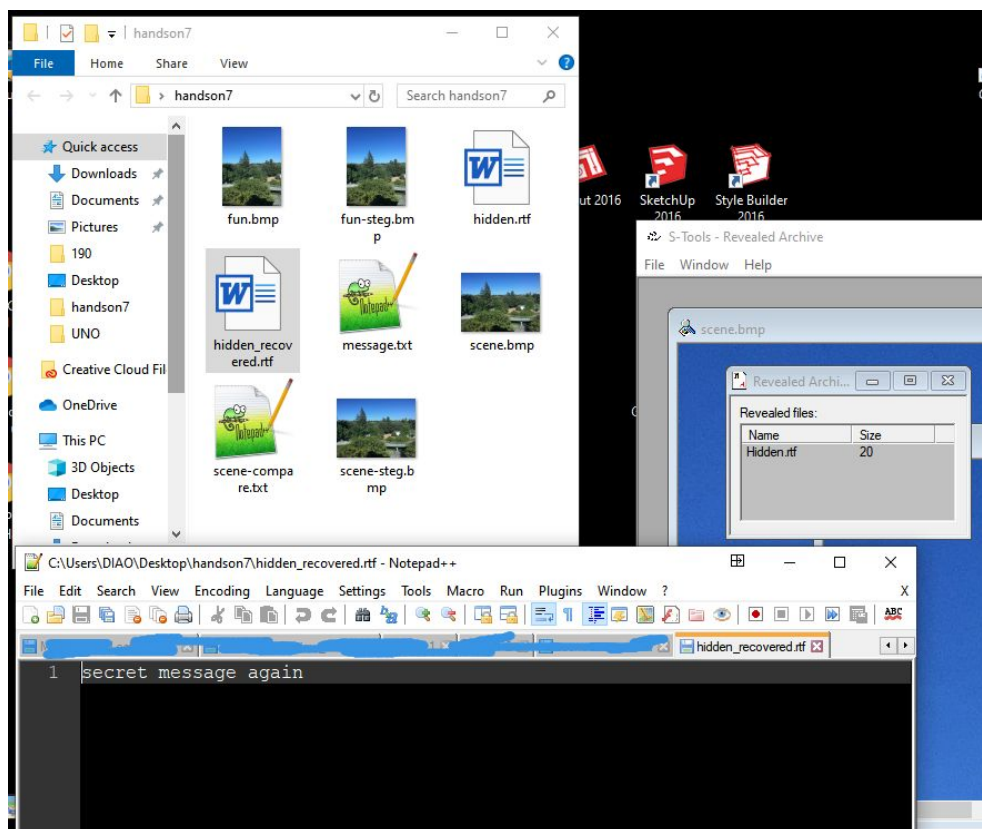
Mon, 11/18/2019 06:59 PM <DIR>          .
Mon, 11/18/2019 06:59 PM <DIR>          ..
Mon, 11/18/2019 06:53 PM          23,970,870 fun-steg.bmp
Mon, 11/18/2019 06:48 PM          23,970,870 fun.bmp
Mon, 11/18/2019 06:55 PM              20 hidden.rtf
Mon, 11/18/2019 06:52 PM              14 message.txt
Mon, 11/18/2019 06:59 PM          616 scene-compare.txt
Mon, 11/18/2019 06:58 PM          23,970,870 scene-steg.bmp
Mon, 11/18/2019 06:54 PM          23,970,870 scene.bmp
              7 File(s)      95,884,130 bytes
              2 Dir(s)  434,326,175,744 bytes free

C:\Users\DIAO\Desktop\handson7>comp scene.bmp scene-steg.bmp > scene-compare.txt
Compare more files (Y/N) ? n

C:\Users\DIAO\Desktop\handson7>

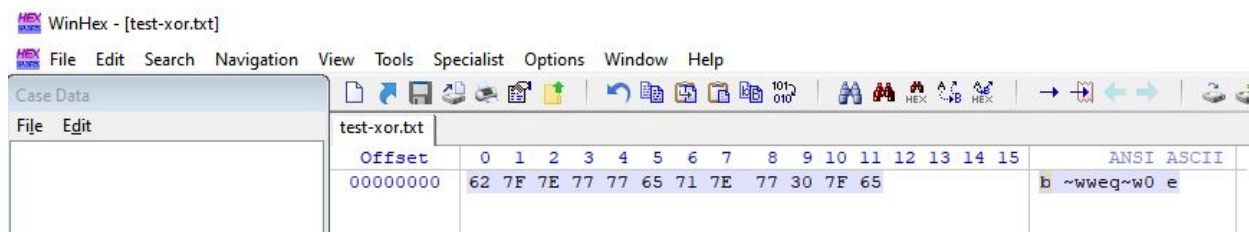
```

Recovered hidden message inside scene-steg.bmp. Message matches the one I inserted earlier.

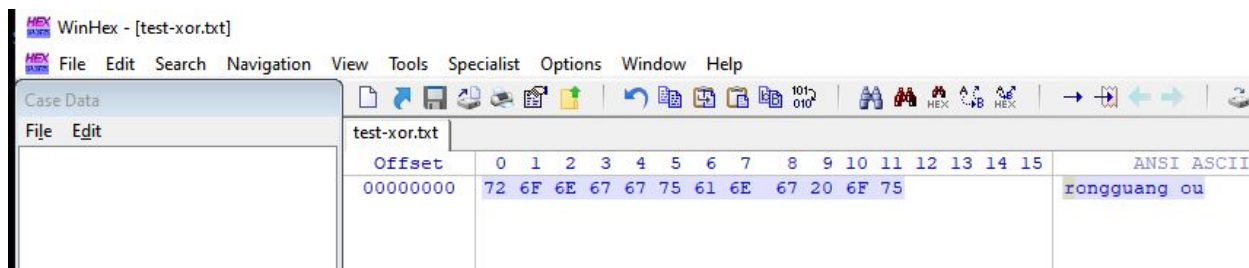


Part 6

Applied xor to test.txt to get test-xor.txt.

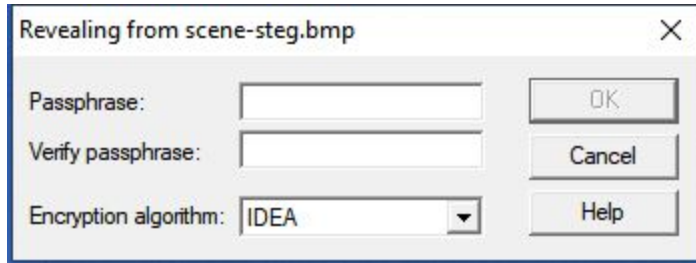


Xor again to get back original message.



Questions :

1. To reveal the hidden data using S-Tools, which information is required? **To reveal the hidden data using S-Tool, the password and algorithm used to encrypt is needed.**



2. In Part 3, Are there any differences between scene.bmp and scene-test.bmp? **There are 10 differences between scene.bmp and scene-test.bmp. Visually the picture does not have a noticeable difference.**

```
1 Comparing scene.bmp and scene-steg.bmp...
2 Compare error at OFFSET 8478
3 file1 = 8
4 file2 = 9
5 Compare error at OFFSET CA65
6 file1 = 0
7 file2 = 1
8 Compare error at OFFSET 1CFD7
9 file1 = 41
10 file2 = 40
11 Compare error at OFFSET 272EC
12 file1 = 11
13 file2 = 10
14 Compare error at OFFSET 27810
15 file1 = 9
16 file2 = 8
17 Compare error at OFFSET 2D607
18 file1 = 52
19 file2 = 53
20 Compare error at OFFSET 33A93
21 file1 = 14
22 file2 = 15
23 Compare error at OFFSET 3A866
24 file1 = 8
25 file2 = 9
26 Compare error at OFFSET 3CCE0
27 file1 = 4
28 file2 = 5
29 Compare error at OFFSET 4B81F
30 file1 = 8
31 file2 = 9
32 10 mismatches - ending compare
33
34 n
35
```

3. In Part3, Are there any differences between fun.bmp and fun-steg.bmp? Yes. there are 10 differences between fun.bmp and fun-steg.bmp.

```

C:\Users\DIAO\Desktop\handson7>comp fun.bmp fun-steg.bmp
Comparing fun.bmp and fun-steg.bmp...
Compare error at OFFSET 2D607
file1 = 27
file2 = 26
Compare error at OFFSET 33A93
file1 = E
file2 = F
Compare error at OFFSET 3C446
file1 = B
file2 = A
Compare error at OFFSET 3CCE0
file1 = 94
file2 = 95
Compare error at OFFSET 427F2
file1 = 11
file2 = 10
Compare error at OFFSET 4B81F
file1 = F
file2 = E
Compare error at OFFSET 55C69
file1 = A
file2 = B
Compare error at OFFSET 584D5
file1 = 48
file2 = 49
Compare error at OFFSET 7A8B0
file1 = 12
file2 = 13
Compare error at OFFSET A2CA0
file1 = D
file2 = C
10 mismatches - ending compare

```

4. In Part 5, among the hash values for message.txt, message-shift-right.txt and message-shift-left.txt, which ones are the same? **The hash value for message.txt and message-shift-right.txt is the same. Message-shift-left.txt have hash value different than message.txt and message-shift.right.txt**

```

1 message right shift : 9C60A148C3600990DA5E767C1DCF949B
2 message left shift  : 496DE2E2A99AC0909E861894547B7B80
3 message              : 9C60A148C3600990DA5E767C1DCF949B

```

5. In class, we've discussed that INFORMATION XOR RANDOM_NUMBER = NONSENSE. What will be generated if we do NONSENSE XOR RANDOM_NUMBER? **NONSENSE XOR RANDOM_NUMBER = INFORMATION.**