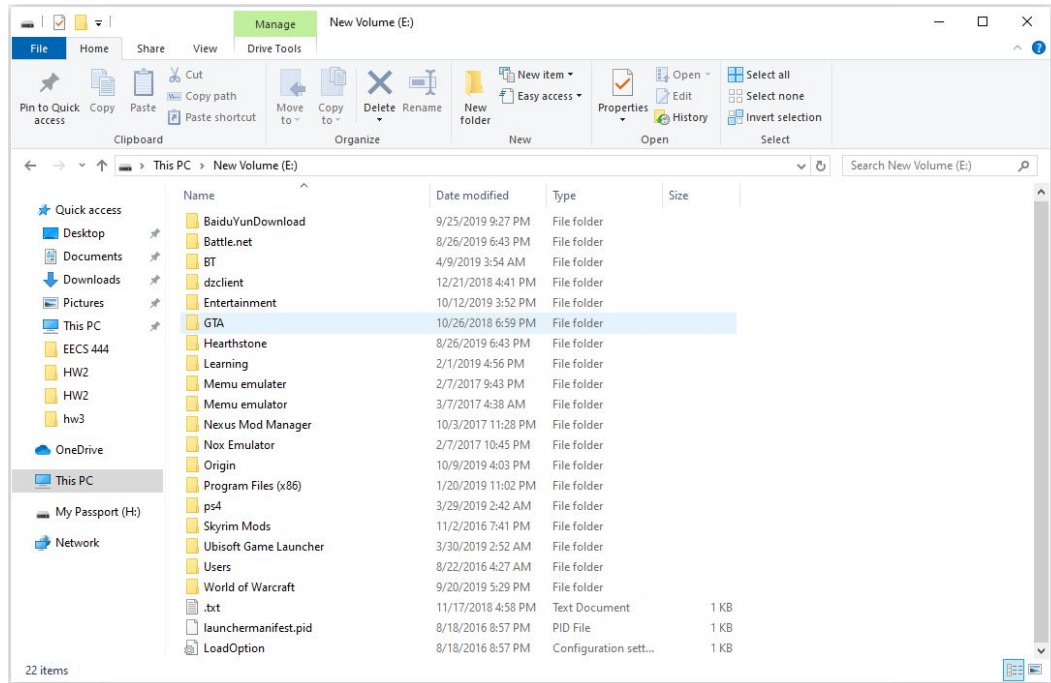
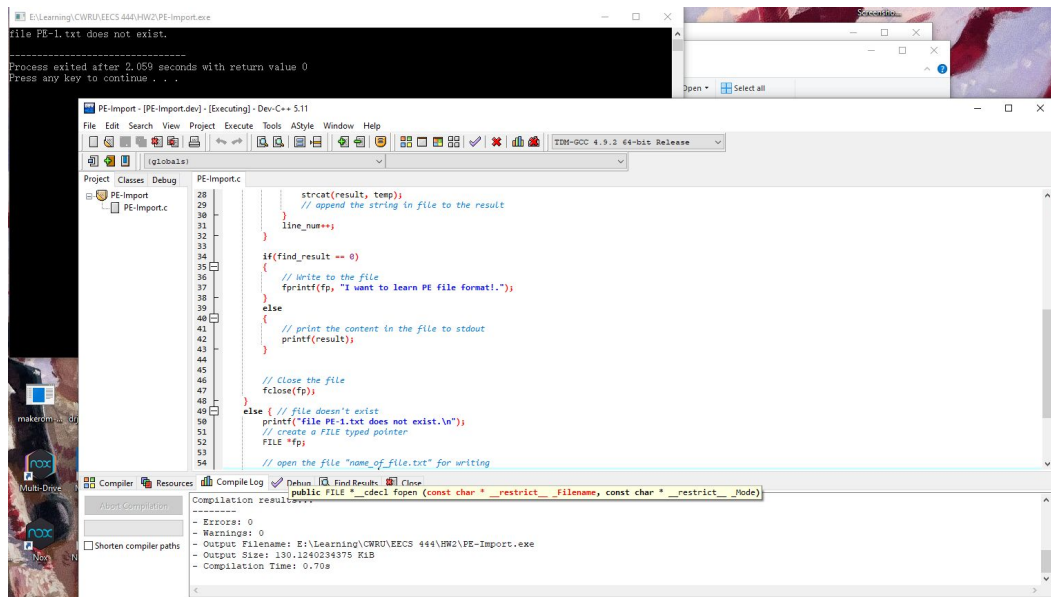


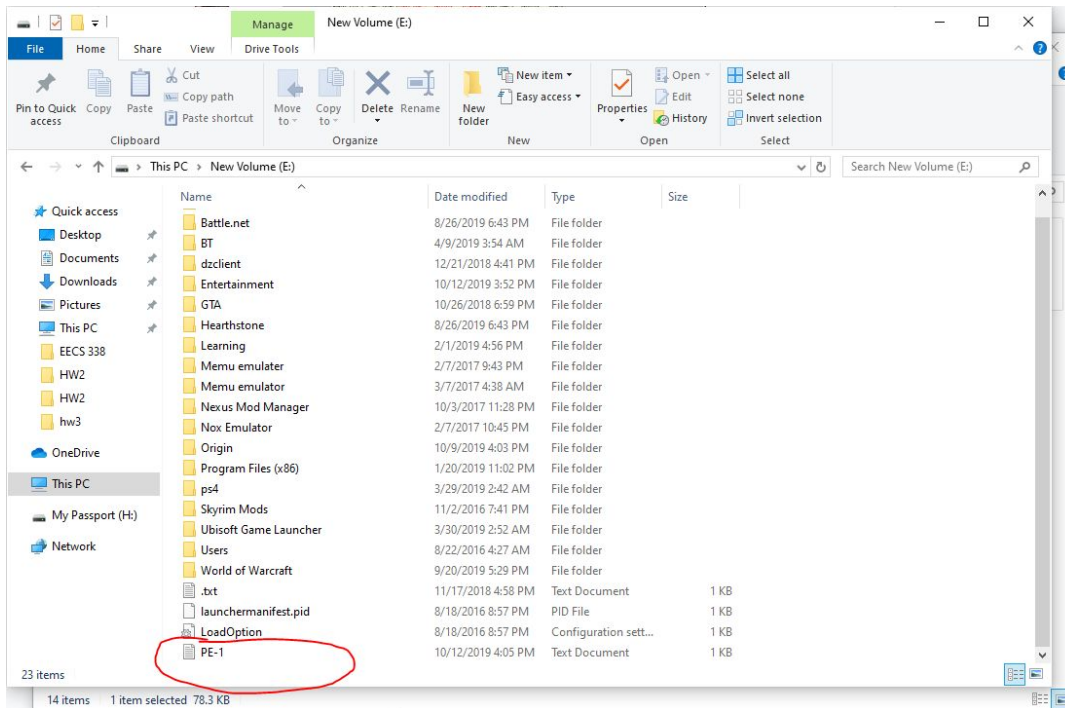
Because I do not have permission to write in the root directory, instead of creating the “PE-1.txt” in the root directory, my program creates a text file in another directory.

**Step 1.1:** Before we compile and execute the “PE-Import.c”, there is no “PE-1.txt” in this directory.

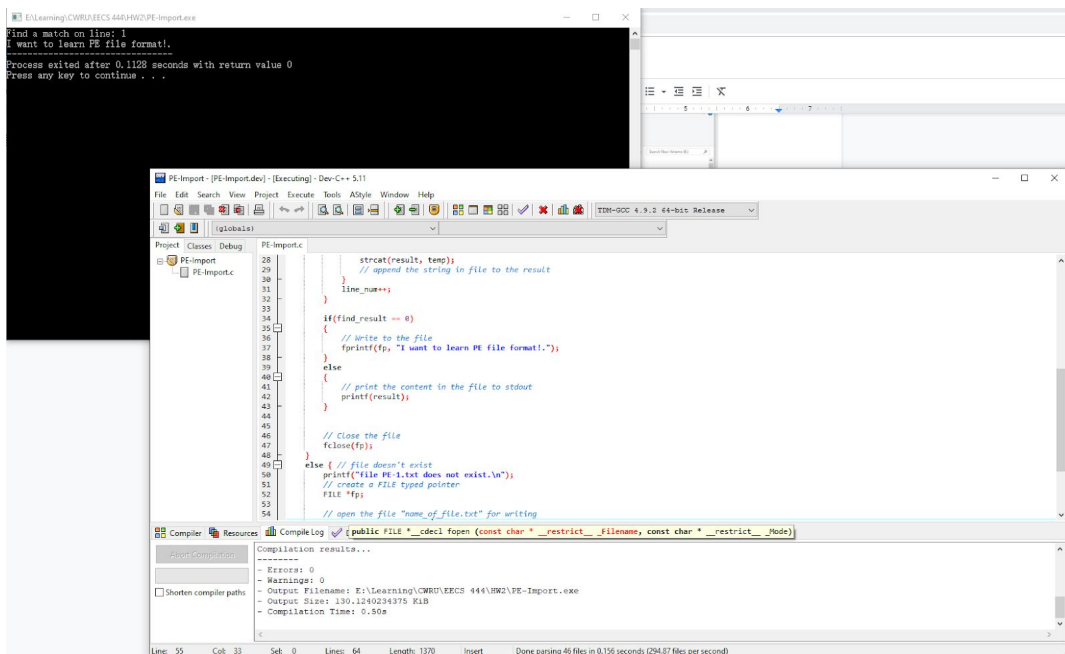


**Step 1.2:** The program prints out “file PE-1.txt does not exist” to Stdout and creates a “PE-1.txt” in this directory.

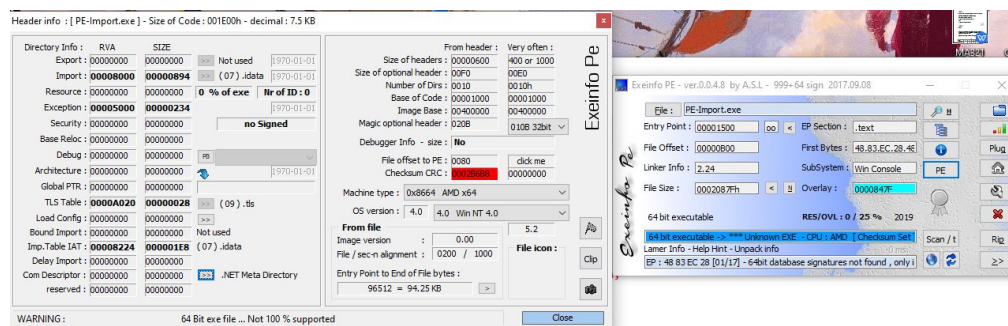




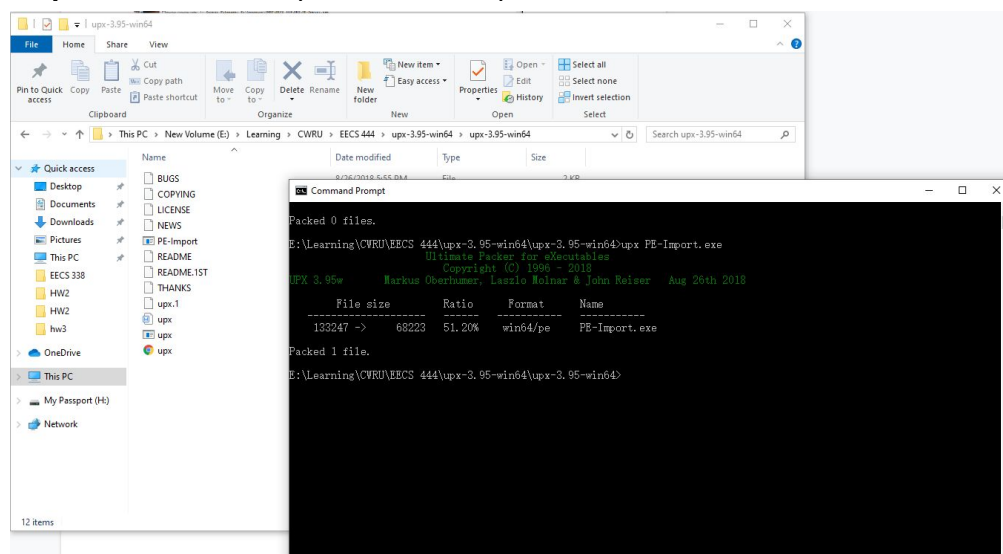
**Step 1.3:** The program will print out the content “I want to learn PE file format” to Stdout if the “PE-1.txt” is already exist in this directory.



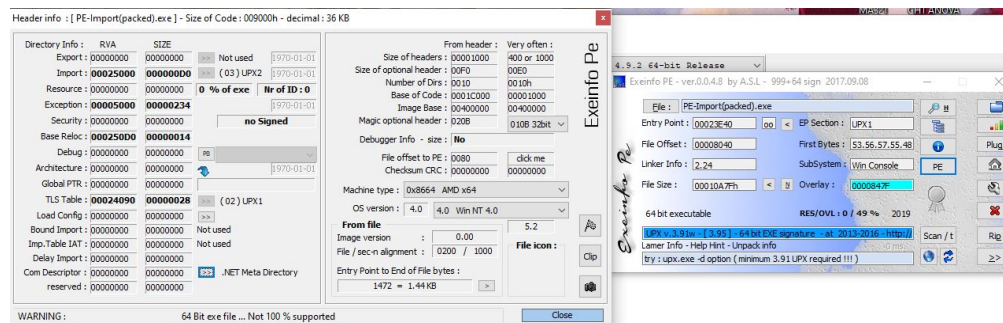
**Step 2.1:** Use Exeinfo PE to check the content in the Import Table for program “PE-Import.exe”.



### Step 3.1: Use UPX to pack the PE-Import.exe.



### Step 3.2: Use Exeinfo PE to check the content in the Import Table for packed "PE-Import.exe".



### Step 3.3: Use UPX to unpack the PE-Import.exe.

```

C:\> Command Prompt

Packed 0 files.

E:\Learning\CWRU\EECS 444\upx-3.95-win64\upx-3.95-win64>upx PE-Import.exe
Ultimate Packer for eXecutables
Copyright (C) 1996 - 2018
UPX 3.95w Markus Oberhumer, Laszlo Molnar & John Reiser Aug 26th 2018

  File size      Ratio      Format      Name
  -----
133247 ->    68223    51.20%    win64/pe    PE-Import.exe

Packed 1 file.

E:\Learning\CWRU\EECS 444\upx-3.95-win64\upx-3.95-win64>upx -d PE-Import.exe
Ultimate Packer for eXecutables
Copyright (C) 1996 - 2018
UPX 3.95w Markus Oberhumer, Laszlo Molnar & John Reiser Aug 26th 2018

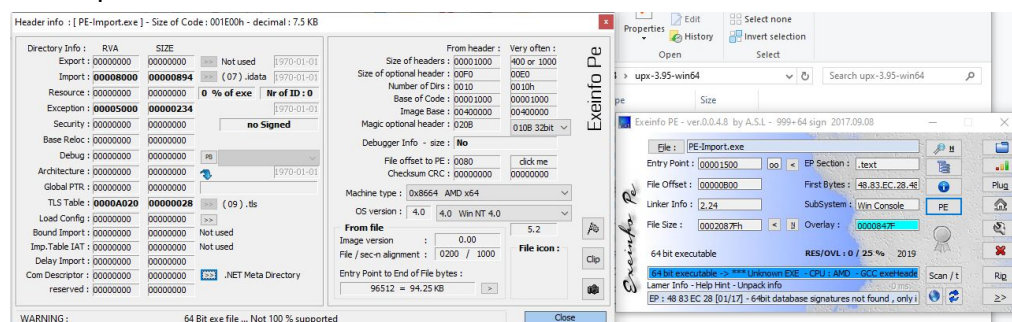
  File size      Ratio      Format      Name
  -----
133247 <-    68223    51.20%    win64/pe    PE-Import.exe

Unpacked 1 file.

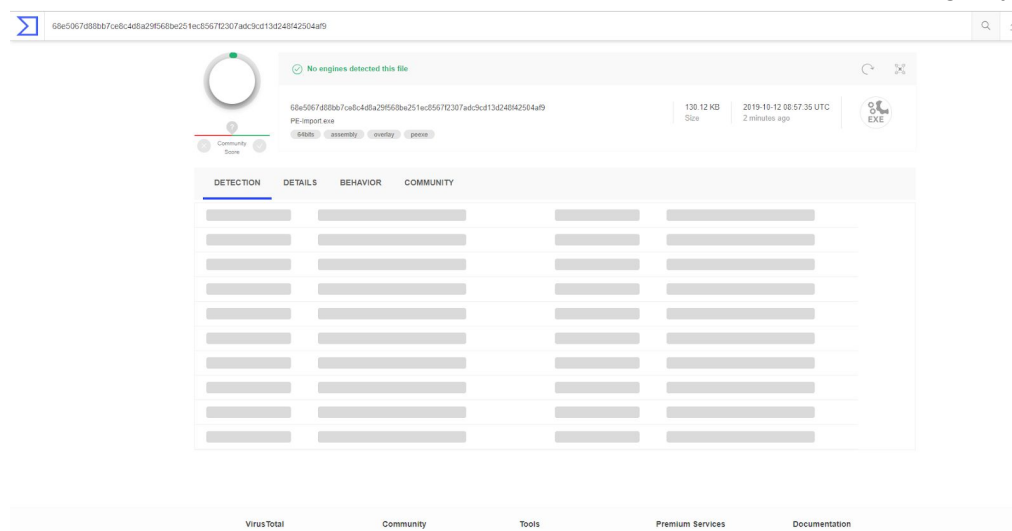
E:\Learning\CWRU\EECS 444\upx-3.95-win64\upx-3.95-win64>

```

**Step 3.4:** Use Exeinfo PE to check the content in the Import Table for unpacked “PE-Import.exe”.



**Step 4.1:** The result of anti-malware scanner for “PE-Import” before using any technique.



**Step 4.2:** The result of anti-malware scanner for “PE-Import” by using packing.



Analyzing (66.3s) ...

613d6447089d449ffa2aa7ac129d27ab48ae8695545826787244a62963873  
PE-import.exe

66.62 KB  
Size

2019-10-12 08:55:46 UTC  
a moment ago

DETECTION

SecureAge APEX	① Malicious	Avira (no cloud)	① HEUR/AGEN.1004702
Cybereason	① Malicious 4a7a00	Cylance	① Unsafe
Endgame	① Malicious (moderate Confidence)	F-Secure	① Heuristic.HEUR/AGEN.1004702
Acronis	✔ Undetected	Ad-Aware	✔ Undetected
AegisLab	✔ Undetected	AhnLab-V3	✔ Undetected
Alibaba	✔ Undetected	ALYac	✔ Undetected
Anfly-AVL	✔ Undetected	Arcabit	✔ Undetected
Avast	✔ Undetected	Avast-Mobile	✔ Undetected
AVG	✔ Undetected	Baidu	✔ Undetected
BitDefender	✔ Undetected	Bkav	✔ Undetected
CAT-QuickHeal	✔ Undetected	ClamAV	✔ Undetected
CMC	✔ Undetected	Comodo	✔ Undetected
CrowdStrike Falcon	✔ Undetected	Cyren	✔ Undetected
DrWeb	✔ Undetected	Emsisoft	✔ Undetected