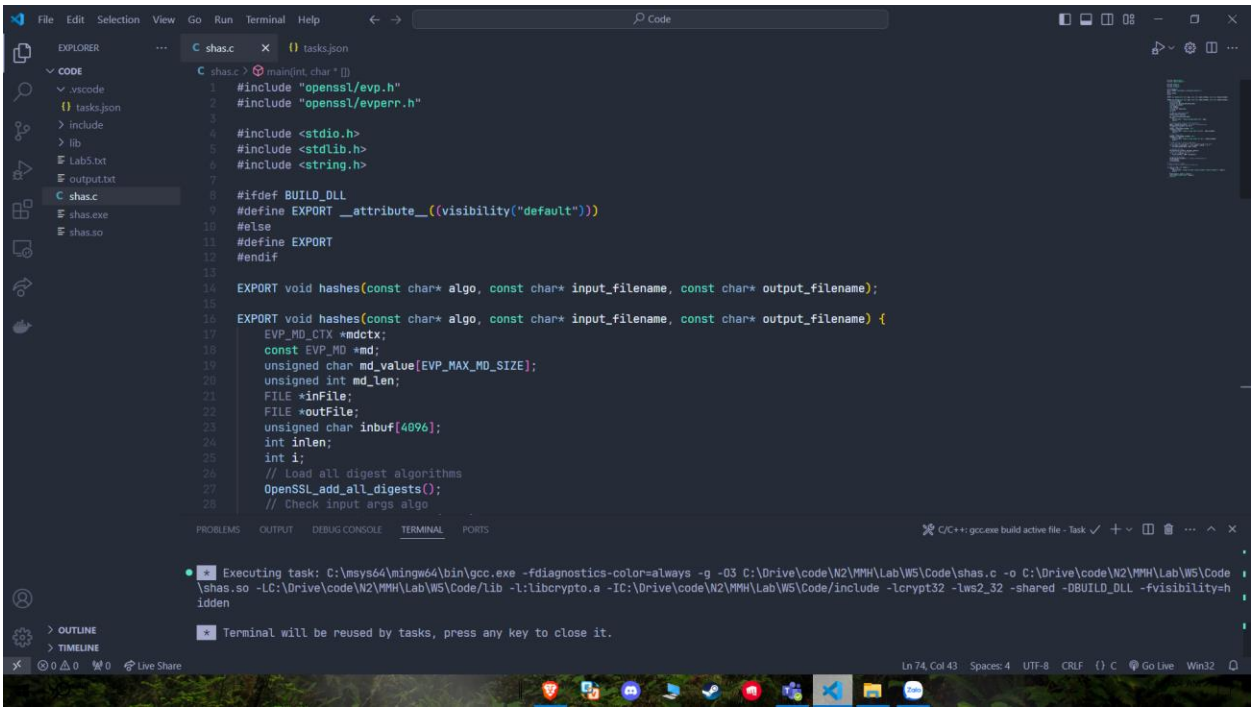
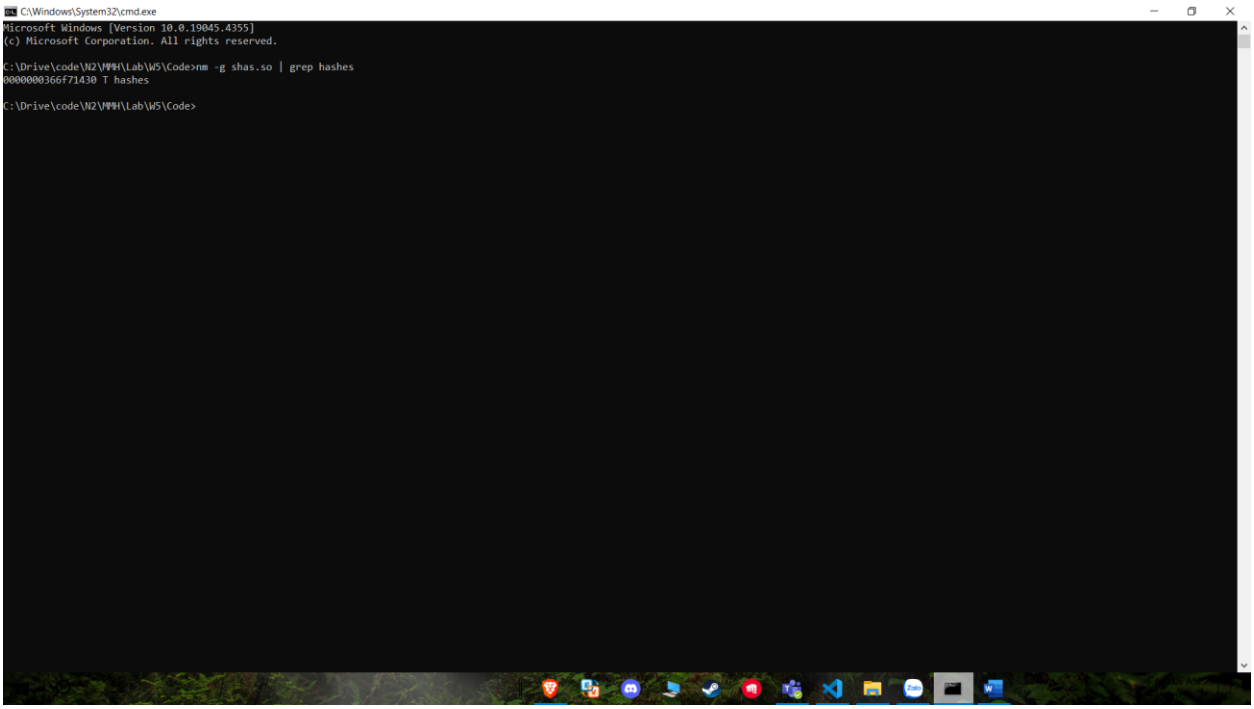
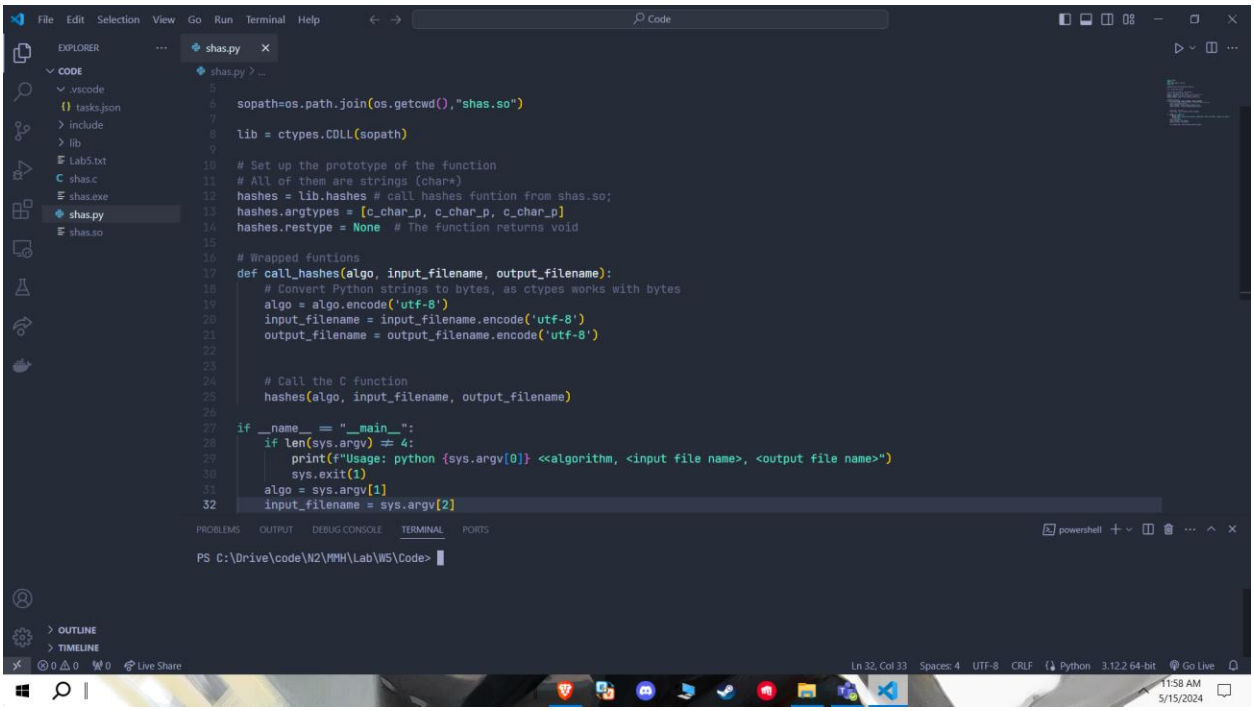
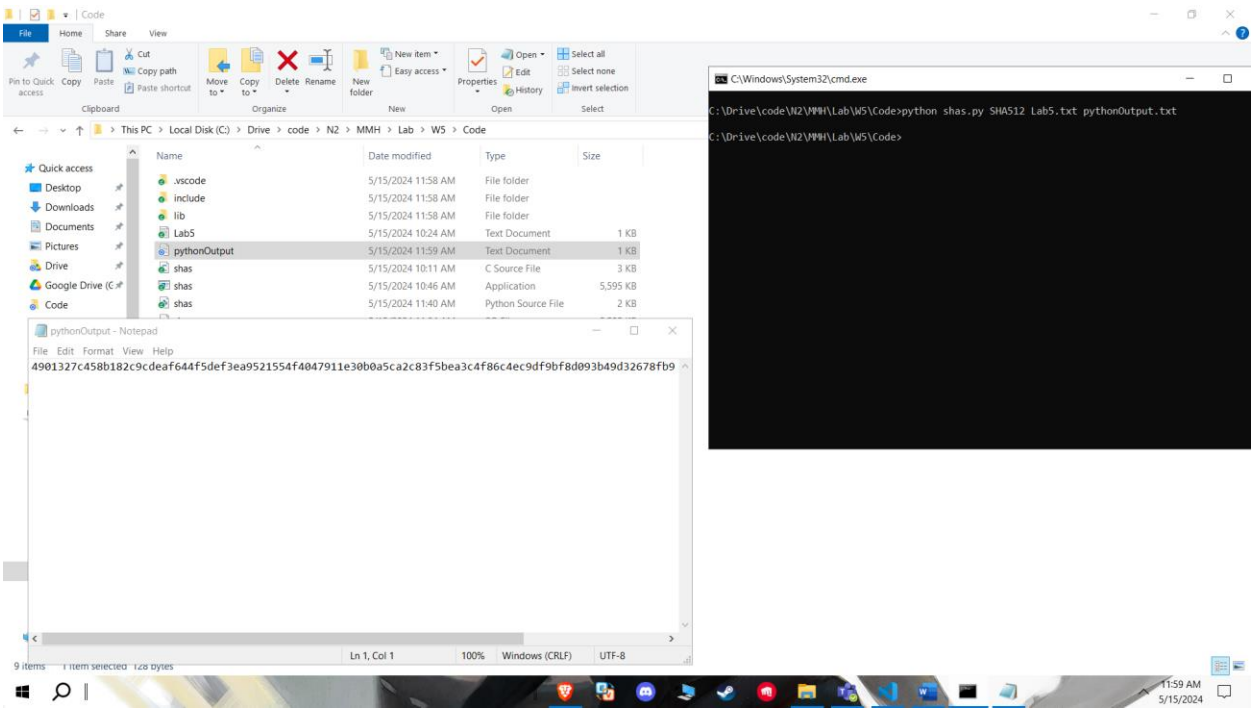
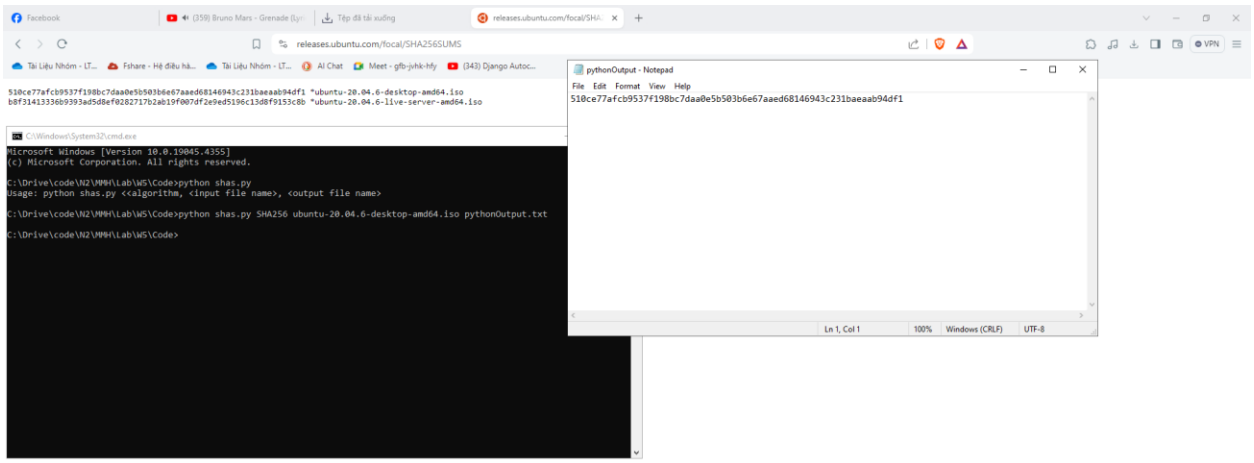

File Edit Selection View Go Run Terminal Help
Code
EXPLORER
shas.c
tasks.json
CODE
.vscode
tasks.json
include
lib
Lab5.txt
output.txt
shas.c
shas.exe
shas.so
shas.c > main(int, char * [])
#include "openssl/evp.h"
#include "openssl/evperr.h"
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#ifdef BUILD_DLL
#define EXPORT __attribute__((visibility("default")))
#else
#define EXPORT
#endif
EXPORT void hashes(const char* algo, const char* input_filename, const char* output_filename);
EXPORT void hashes(const char* algo, const char* input_filename, const char* output_filename) {
EVP_MD_CTX *mdctx;
const EVP_MD *md;
unsigned char md_value[EVP_MAX_MD_SIZE];
unsigned int md_len;
FILE *inFile;
FILE *outFile;
unsigned char inbuf[4096];
int inlen;
int i;
// Load all digest algorithms
OpenSSL_add_all_digests();
// Check input args algo
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
C/C++: gcc.exe build active file - Task
Executing task: C:\msys64\mingw64\bin\gcc.exe -fdiagnostics-color=always -g -O3 C:\Drive\code\N2\MMH\Lab\W5\Code\shas.c -o C:\Drive\code\N2\MMH\Lab\W5\Code\shas.so -LC:\Drive\code\N2\MMH\Lab\W5\Code/lib -l:libcrypto.a -IC:\Drive\code\N2\MMH\Lab\W5\Code/include -lcrypt32 -lws2_32 -shared -DBUILD_DLL -fvisibility=hidden
Terminal will be reused by tasks, press any key to close it.
OUTLINE
TIMELINE
Live Share
Ln 74, Col 43 Spaces: 4 UTF-8 CRLF {} C Go Live Win32


C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.4355]
(c) Microsoft Corporation. All rights reserved.
C:\Drive\code\N2\MMH\Lab\W5\Code>nm -g shas.so | grep hashes
0000000366f71430 T hashes
C:\Drive\code\N2\MMH\Lab\W5\Code>


File Edit Selection View Go Run Terminal Help
Code
EXPLORER
shas.py
CODE
.vscode
tasks.json
include
lib
Lab5.txt
shas.c
shas.exe
shas.py
shas.so
sopath=os.path.join(os.getcwd(),"shas.so")
lib = ctypes.CDLL(sopath)
# Set up the prototype of the function
# All of them are strings (char*)
hashes = lib.hashes # call hashes funtion from shas.so;
hashes.argtypes = [c_char_p, c_char_p, c_char_p]
hashes.restype = None # The function returns void
# Wrapped funtions
def call_hashes(algo, input_filename, output_filename):
# Convert Python strings to bytes, as ctypes works with bytes
algo = algo.encode('utf-8')
input_filename = input_filename.encode('utf-8')
output_filename = output_filename.encode('utf-8')
# Call the C function
hashes(algo, input_filename, output_filename)
if __name__ == "__main__":
if len(sys.argv) != 4:
print(f"Usage: python {sys.argv[0]} <algorithm, <input file name>, <output file name>")
sys.exit(1)
algo = sys.argv[1]
input_filename = sys.argv[2]
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
powershell
PS C:\Drive\code\N2\MMH\Lab\W5\Code>
OUTLINE
TIMELINE
Ln 32, Col 33 Spaces: 4 UTF-8 CRLF Python 3.12.2 64-bit Go Live
11:58 AM
5/15/2024


Code
File Home Share View
Pin to Quick access Copy Paste Cut Copy path Paste shortcut
Clipboard
Move to Copy to Delete Rename
Organize
New folder New item Easy access
New
Properties Open Edit History
Open
Select all Select none Invert selection
Select
This PC > Local Disk (C:) > Drive > code > N2 > MMH > Lab > W5 > Code
Quick access
Desktop
Downloads
Documents
Pictures
Drive
Google Drive (G
Code
Name Date modified Type Size
.vscode 5/15/2024 11:58 AM File folder
include 5/15/2024 11:58 AM File folder
lib 5/15/2024 11:58 AM File folder
Lab5 5/15/2024 10:24 AM Text Document 1 KB
pythonOutput 5/15/2024 11:59 AM Text Document 1 KB
shas 5/15/2024 10:11 AM C Source File 3 KB
shas 5/15/2024 10:46 AM Application 5,595 KB
shas 5/15/2024 11:40 AM Python Source File 2 KB
pythonOutput - Notepad
File Edit Format View Help
4901327c458b182c9cdeaf644f5def3ea9521554f4047911e30b0a5ca2c83f5bea3c4f86c4ec9df9bf8d093b49d32678fb9
Ln 1, Col 1 100% Windows (CRLF) UTF-8
C:\Windows\System32\cmd.exe
C:\Drive\code\N2\MMH\Lab\W5\Code>python shas.py SHA512 Lab5.txt pythonOutput.txt
C:\Drive\code\N2\MMH\Lab\W5\Code>
11:59 AM
5/15/2024


releases.ubuntu.com/focal/SHA256SUMS
510ce77afcb9537f198bc7daa0e5b503b6e67aaed68146943c231baeaab94df1 *ubuntu-20.04.6-desktop-amd64.iso
b8f31413336b9393ad5d8ef0282717b2ab19f007df2e9ed5196c13d8f9153c8b *ubuntu-20.04.6-live-server-amd64.iso
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.4355]
(c) Microsoft Corporation. All rights reserved.
C:\Drive\code\N2\MMH\Lab\W5\Code>python shas.py
Usage: python shas.py <<algorithm, <input file name>, <output file name>
C:\Drive\code\N2\MMH\Lab\W5\Code>python shas.py SHA256 ubuntu-20.04.6-desktop-amd64.iso pythonOutput.txt
C:\Drive\code\N2\MMH\Lab\W5\Code>
pythonOutput - Notepad
File Edit Format View Help
510ce77afcb9537f198bc7daa0e5b503b6e67aaed68146943c231baeaab94df1
Ln 1, Col 1
100%
Windows (CRLF)
UTF-8