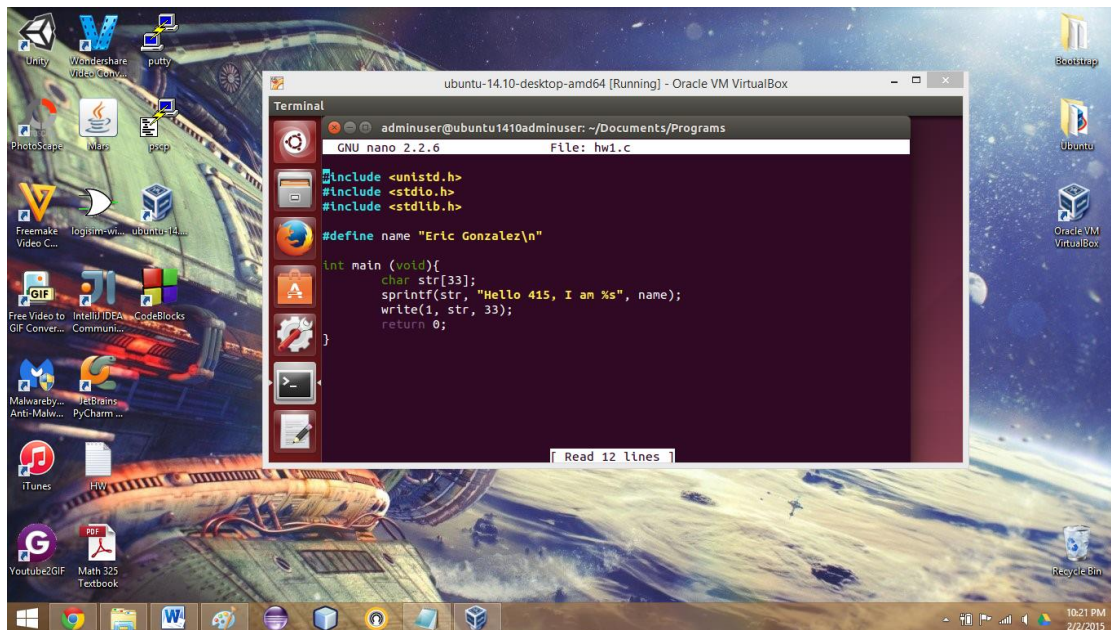


Homework #1

I installed a virtual machine on my computer to be able to run Linux/Ubuntu. I had to use Posix system calls when writing this program. I included the necessary directives for the assignment. I provided a screen cap of the source code and output while running my virtual machine. I used the GCC compiler for this.



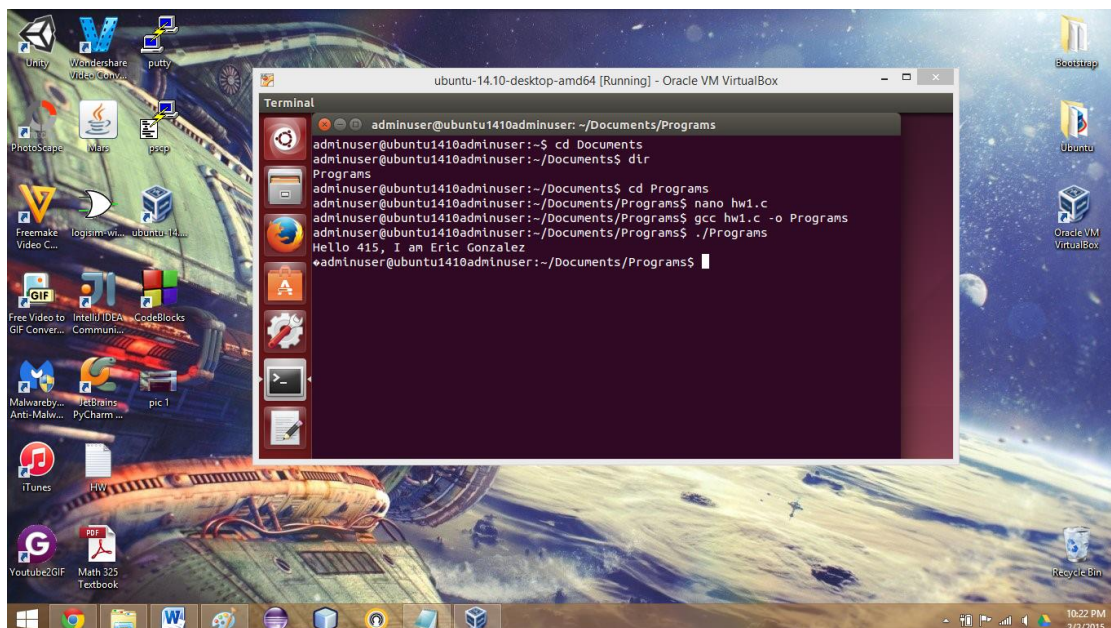
The screenshot shows a Windows desktop with a VirtualBox window titled "ubuntu-14.10-desktop-amd64 [Running] - Oracle VM VirtualBox". The terminal window displays the source code for a C program named "hw1.c". The code includes standard headers, defines a name, and uses printf and write system calls to output a message.

```
adminuser@ubuntu1410adminuser: ~/Documents/Programs
GNU nano 2.2.6 File: hw1.c

#include <unistd.h>
#include <stdio.h>
#include <stdlib.h>

#define name "Eric Gonzalez\n"

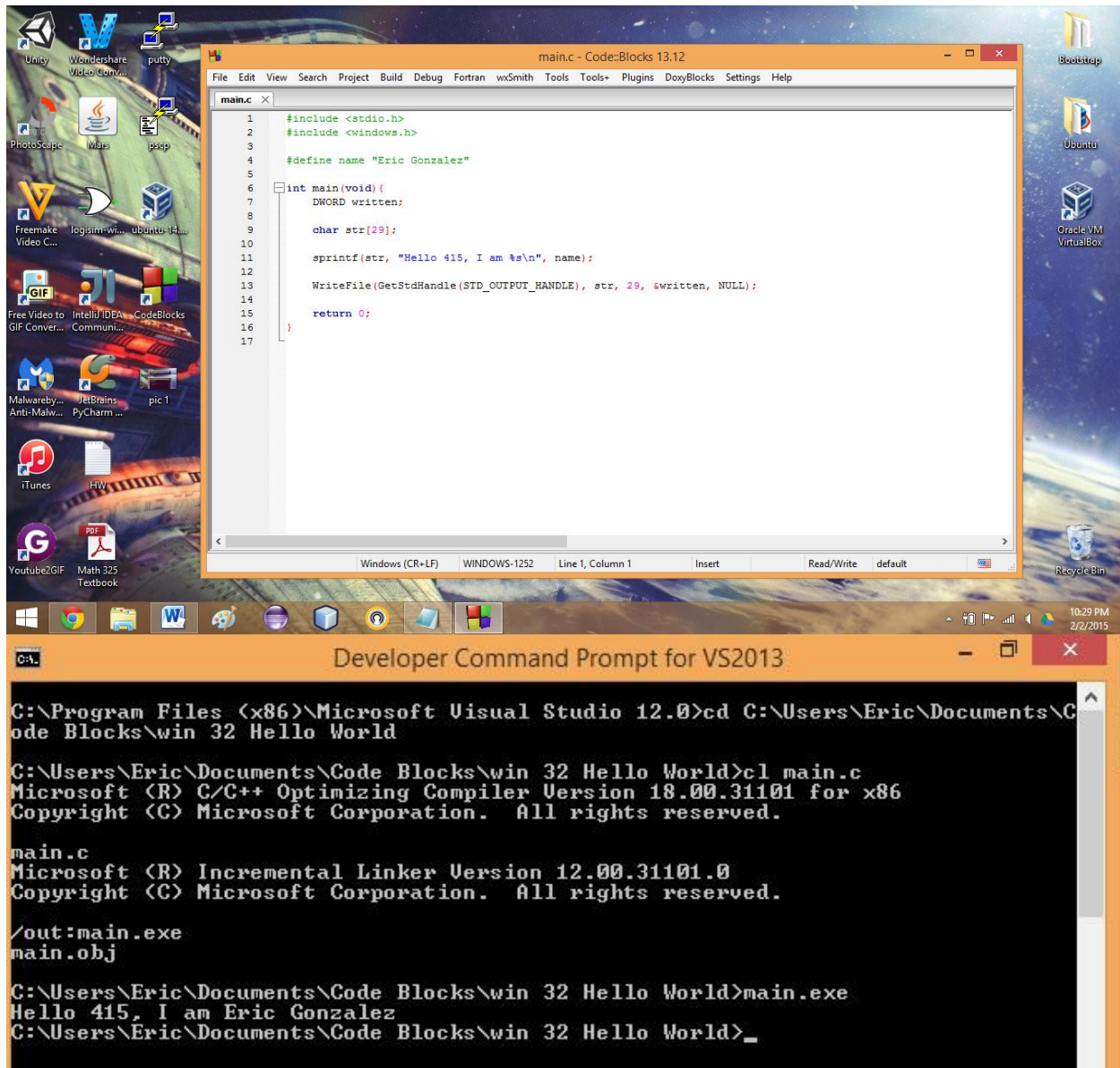
int main (void){
    char str[33];
    printf(str, "Hello 415, I am %s", name);
    write(1, str, 33);
    return 0;
}
```



The screenshot shows the same VirtualBox window, but the terminal now displays the output of the program. The user has navigated to the "Programs" directory, compiled the program with gcc, and executed it. The output is "Hello 415, I am Eric Gonzalez".

```
adminuser@ubuntu1410adminuser: ~/Documents/Programs
adminuser@ubuntu1410adminuser:~$ cd Documents
adminuser@ubuntu1410adminuser:~/Documents$ dir
Programs
adminuser@ubuntu1410adminuser:~/Documents$ cd Programs
adminuser@ubuntu1410adminuser:~/Documents/Programs$ nano hw1.c
adminuser@ubuntu1410adminuser:~/Documents/Programs$ gcc hw1.c -o Programs
adminuser@ubuntu1410adminuser:~/Documents/Programs$ ./Programs
Hello 415, I am Eric Gonzalez
adminuser@ubuntu1410adminuser:~/Documents/Programs$
```

For the Win 32 version I used an IDE to write the code then compiled/ran it on the terminal. I provided screen cap of the source code and the output. I used CL to compile my program.



The screenshot displays a Windows desktop environment. The desktop background is a blue and green abstract image. Various application icons are visible on the desktop, including Unity, Wondershare Video Converter, putty, PhotoScape, Wondershare PDFElement, Freemake Video Converter, logsim-win, ubuntu-14..., Free Video to GIF Converter, Intellic IDEA, CodeBlocks, Malwarebytes Anti-Malware, JetBrains PyCharm, iTunes, HW, Youtube2GIF, Math 325 Textbook, and Recycle Bin. The taskbar at the bottom shows the Start button and several open applications: Chrome, File Explorer, Word, and Code::Blocks. The Code::Blocks IDE is open, showing a C program named 'main.c'. The code in the IDE is as follows:

```
1 #include <stdio.h>
2 #include <windows.h>
3
4 #define name "Eric Gonzalez"
5
6 int main(void){
7     DWORD written;
8
9     char str[20];
10
11     sprintf(str, "Hello 415, I am %s\n", name);
12
13     WriteFile(GetStdHandle(STD_OUTPUT_HANDLE), str, 20, &written, NULL);
14
15     return 0;
16 }
17
```

Below the IDE, a 'Developer Command Prompt for VS2013' is open. The command prompt shows the following commands and output:

```
C:\Program Files (x86)\Microsoft Visual Studio 12.0>cd C:\Users\Eric\Documents\Code Blocks\win 32 Hello World
C:\Users\Eric\Documents\Code Blocks\win 32 Hello World>cl main.c
Microsoft (R) C/C++ Optimizing Compiler Version 18.00.31101 for x86
Copyright (C) Microsoft Corporation. All rights reserved.

main.c
Microsoft (R) Incremental Linker Version 12.00.31101.0
Copyright (C) Microsoft Corporation. All rights reserved.

/out:main.exe
main.obj
C:\Users\Eric\Documents\Code Blocks\win 32 Hello World>main.exe
Hello 415, I am Eric Gonzalez
C:\Users\Eric\Documents\Code Blocks\win 32 Hello World>_
```