

# Summary of Projects

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BY TOMMY GODFREY

# C++ Meta Assembler

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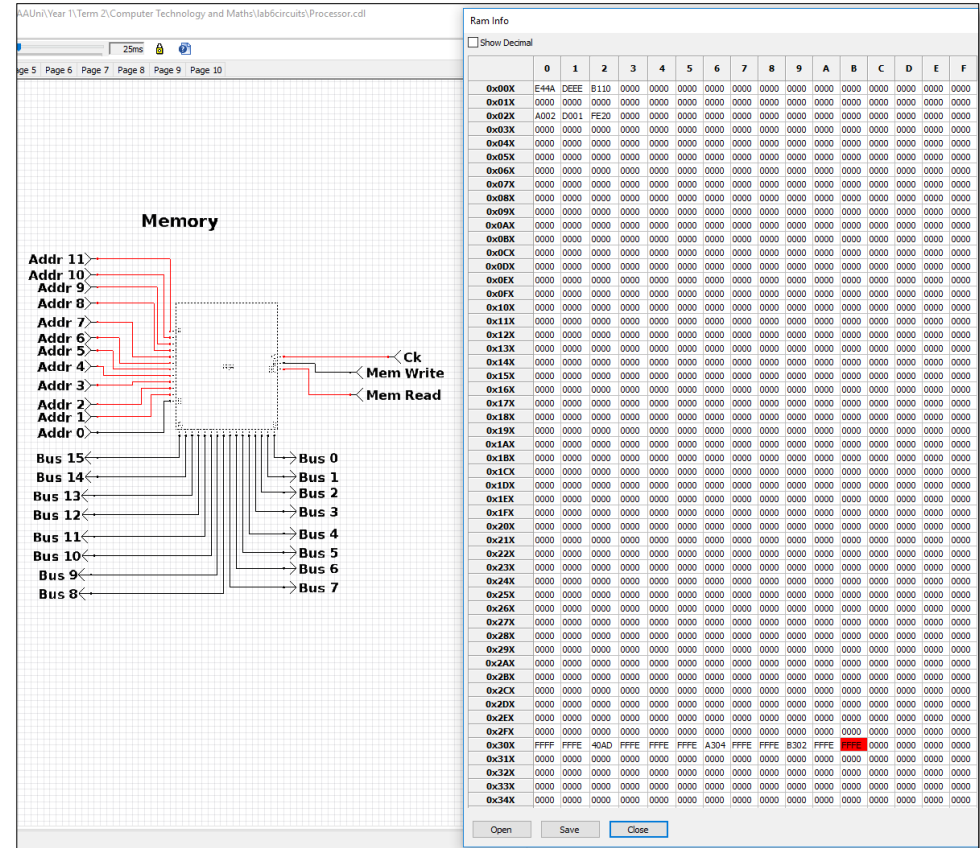
**Brief description:** This program takes in 2 text files, one which lets the user define their own Assembly language commands with corresponding machine code, and another which lets them write Assembly programs in their assembler. When the program is executed it produces a third text file, in cedar logic format, containing machine code.

It was designed with a specific virtual CPU in mind, one I made in CEDAR logic, so that I could write working assembly programs for it. It makes use of directives such as EQU, ORG and has working labels and offsets.

## **Skills learned:**

- Object oriented programming
- Source control
- File handling
- Assembly
- Debugging

# C++ Meta Assembler



# Python Hacking minigame

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**Brief description:** My first major programming project of the year was a small hacking minigame that was intended to resemble the Fallout franchise's hacking minigame. It was made in Python and would output the game to the console, which is where it took user input. The word pool was in the form of a word document that could be edited, it handles user error, and the game would keep a record of the user's win streak.

## **Skills learned:**

- User input
- Error handling
- Basic game systems
- File handling
- Functions

# Python Hacking minigame

The image displays three screenshots of a terminal window titled "C:\WINDOWS\py.exe" running a Python Hacking minigame. The first screenshot shows the welcome message and instructions. The second screenshot shows the game rules and a list of 32 hex-coded commands. The third screenshot shows the win message and the current streak.

```
Welcome to the Terminal Hacking Game.  
Type 'Play' to start the game, 'Help' to be given the rules, or 'Quit' to exit:
```

```
Welcome to Terminal Hacking Minigame  
Password Required  
  
3 Attempts Remaining: ■ ■ ■  
  
0x7BA0 .,^%|!|[[[+#+;- 0x7C60 ;+@[+\(+++;+.  
0x7BAC \%%[SELLER;/ 0x7C6C ]\ACTION*>\-  
0x7BB8 BATTLE@.-{+; 0x7C78 );[,@)COVERS  
0x7BC4 ##.@STRAIN-@ 0x7C84 $.\:.....|=| ><([  
0x7BD0 -:[FORMAT].) 0x7C90 LAWYER>=,-^< >Clue found:  
0x7BDC ^+/?/!^+<:@ 0x7C9C RESULT^?|=|== >Dud removed.  
0x7BE8 [#!WEEKLY)] 0x7CA8 @\(@/-SQUARE >(<=  
0x7BF4 ]],+%,!^+], 0x7CB4 [#!],],-^*;]{ >Clue found:  
0x7C00 ^]]+,,*-<+>, 0x7CC0 .]]>]]+;+*+@ >Dud removed.  
0x7C0C ;*?WRITER[? 0x7CCC ?#.=^,\^%,> >Error  
0x7C18 |-[^>]!...$ 0x7CD8 _|=,!!)#]+,( >Non-valid choice  
0x7C24 =.....*-$+| 0x7CE4 ]@BECOME?*$$. >Please try again  
0x7C30 %SUMMER*<)* 0x7CF0 {BUTTON>@>$+ >ACTION  
0x7C3C UNLESS.%@|=} 0x7CFC ,+<:;+!,@(:;+ >Entry Denied.  
0x7C48 ;^/...}@@([{ 0x7D08 $=>$!|@[]<\ >Likeness = 1  
0x7C54 =;(%\.-!+/% 0x7D14 ]?#)}#(,= ?% >
```

```
Congratulations, you won and hacked the terminal successfully!  
Your streak is now 1 .  
Enter 'Again' to play again, 'Menu' to return to the menu or 'Quit' to quit:
```