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cs211

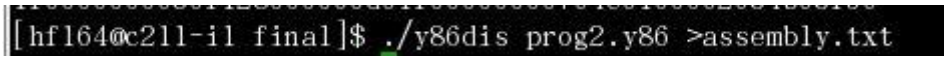
pa4

This assignment is absolutely the most funny and challenging assignment that I have ever met. The ideology of this program is not complicated but the implementation task is extreme heavy cause there are bunch of y86 instruction there and we have to make a code for every instruction .

My frame is very simple . I just make a CPU structure to store all the registers and all the flags. The initial part of the program just follow professor' s way in the class .And when I execute the instruction in store in the main memory , I use a instruction counter which is part of the CPU structure to track my running of the y86. The running time is just linear .And the space cost is exactly the size of the y86 program.

Then I finish all the extra credit included disassembler assembler and make my own y86 program which is to compute the Fibonacci number . It is a definitely stuff.

By the way , if you wanna extra my output of disassembler and assembler to a txt file , you just use the > symbol to the terminal just like the picture shown .You will create a txt file to store the assembly instruction output .Then you are good to go with the assembler .



And this is the content of the assembly.txt. The left most column is the location of the instruction in the memory.

```
100     irmovl  1800    %esp
106     rrmovl  %esp    %ebp
108     call    14a
10d     halt
10e     nop
10f     pushl   %ebp
111     rrmovl  %esp    %ebp
113     irmovl  10      %eax
119     subl    %eax    %esp
11b     rmmovl  %edi    fffffffc(%ebp)
121     irmovl  1       %eax
127     andl    %edi    %edi
129     je      145
12e     mrmovl  fffffffc(%ebp)  %ebx
134     subl    %eax    %ebx
136     rrmovl  %ebx    %edi
138     call    10f
13d     mrmovl  fffffffc(%ebp)  %ebx
143     mull    %ebx    %eax
145     rrmovl  %ebp    %esp
147     popl    %ebp
149     ret
14a     pushl   %ebp
14c     rrmovl  %esp    %ebp
14e     irmovl  4       %ebx
```

The usage for the assembler is that you have to use the txt file created by the y86dis as a

input file to the y86ass, and the y86ass will give you a bunch of .text number which is a part of y86 file . I just use stdout to show the output .You must get my point, right ? I hope you can enjoy my program . <3