

Compilers – Fall 2022

HW1: A simple compiler that can compile an integer

Total: 10 points

Please follow the slide I use in the classroom, Lect0_vary Brief Introduction.pdf to design a compiler that can accept “one integer” to simulate the real compiler that can take in the whole file.

Program specs:

- 1) Use the C or C++ to write a program
- 2) This program can print the Intel x86 assembly tags
- 3) For example, if your source code is called single_integer_compiler.c
- 4) Then, you can compile it using
`gcc -o single_integer_compiler single_integer_compiler.c`
- 5) Then, execute the program by using any integer as argument in the linux/Unix
`./single_integer_compiler '42' > single_integer_compiler.s`
- 6) `gcc -o single_integer_compiler.target single_integer_compiler.s`
- 7) `./single_integer_compiler.target`
- 8) `echo $?`
- 9) See if you get what you had input, 42, for example?

[Hints]

- 1) Deal with the user's input by using `atoi(argv[1])`
- 2) Copy this value to `rax` register by using `mov`

Due Date: 9/6/2022 11:59PM