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CECS 440 Section 02
Lab 1
21 September 2021

1 Test Program

Figure 1 shows the screenshot of `test-program.asm` running on QtSPIM.

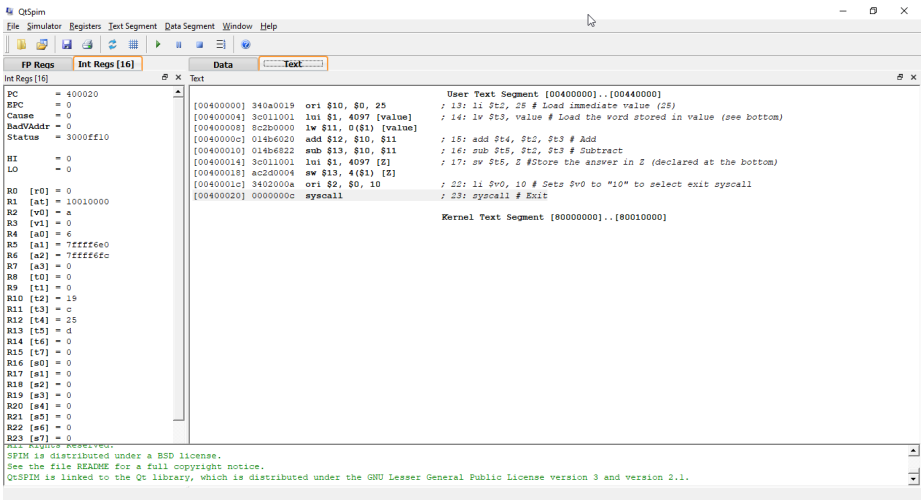

Figure 1: `test-program.asm` (feel free to zoom in).

- Nine total instructions are executed.
- The registers `$t2`, `$t3`, `$t4`, and `$t5` are all directly used in calculations, along with `$v0`, which is used for the `syscall`. Registers `$at`, `$a0`, `$a1`, and `$a2` as well as `$sp` are all used by the simulated computer automatically, without an explicit command.
- The address `0x10010004` is changed when the command `sw` is used. This is the address of `Z`. (Address `0x10010000` is also used, but is not changed.) It is interesting to note that loading in the address of a bit in memory is done in two instructions rather than one, because load commands have a limitation of only being able to store 16 bits in its last field.
- The only `syscall` that is used is 10, which simply ends the program. If it were not there, QtSPIM would give an error when the program tries to go past the last instruction.

2 Hello World

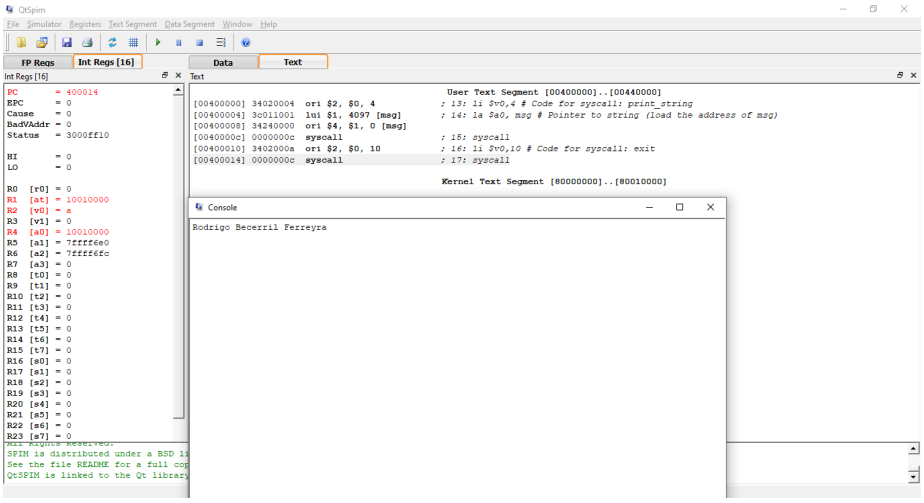

Figure 2: `hello-world.asm`

3 Simple Add

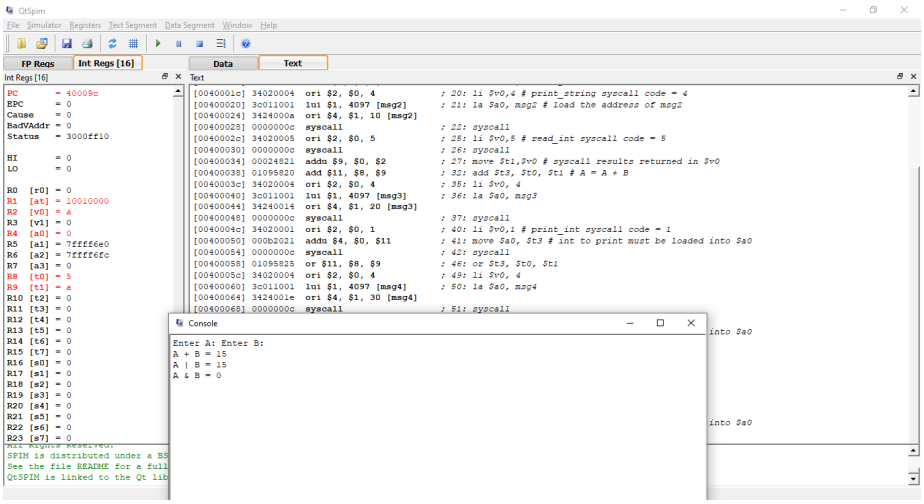

Figure 3: `simple-add.asm`