

Disassembly

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SW1 Assignment

Summary

In this lab, the machine code was given to translate to assembler code by reading the sheet provided by the RISC-V manual. From that manual, assembler code is achieved by checking opcode, rs1, rs2, rd and type according to their bits addresses.

Below is the code for assembler in RARS software:

```
1  # SW1
2
3  #####
4
5  target: addi x6, x0, 0
6
7          lw x5, 0(x6)
8
9          xori x5, x5, -1
10
11         sw x5, 0(x6)
12
13         jal x0, target
14
```

Fig 1 : Assembler code for machine code

	Code	Basic	Source
0	0x00000313	addi x6,x0,0	5: target: addi x6, x0, 0
4	0x00032283	lw x5,0(x6)	7: lw x5, 0(x6)
8	0xffff2c293	xori x5,x5,0xffffffff	9: xori x5, x5, -1
c	0x00532023	sw x5,0(x6)	11: sw x5, 0(x6)
0	0xff1ff06f	jal x0,0xffffffff0	13: jal x0, target

Fig 2 : Simulation file for machine code and assembler code