

MIPS Assembly Workshop

Summer - 2017

This workshop exercise is to allow you to practice your skills at the art of assembling MIPS Assembly Language program code.

The following page has a small copy routine written in MIPS Assembly Language.

Please fill in the spaces in the table as my example shows:

Please use decimal values for the OpCode row, and Hex digits for the Instruction rows. Use your Green Card to lookup the required values.

Location
Counter

Program
Counter

		ADD	\$t4	\$s6	\$s1	# \$t4 = \$s6 + \$s1	
			12	22	17		
		Opcode	Rs	Rt	Rd	Immediate field	
		0 / 32	22	17	12		
	000000 10110 10001 01100 00000 100000						
32	02D1 6020						36

Additionally, use the Left margin to keep track of the Location Counter, and the right margin to note the value that would be in the Program Counter.

The initial value of the Location Counter should be zero.

The first instruction below is worked.

LC		ADDI	\$v0,	\$zero,	0	# Initialize counter	PC
		8	2	0	0		
	001000 00000 00010 0000000000000000						
0	2002 0000						4
	loop:	LW	\$t1,	0	(\$a0)	# read the next word	
4							
		SW	\$t1,	0	(\$a1)	# copy	
		ADDI	\$v0,	\$v0,	1	# count the copied word	
		ADDI	\$a0,	\$a0,	4	# next source word	
		ADDI	\$a1,	\$a1,	4	# next destination	
		BNE	\$t1,	\$zero,	loop	# if not zero value	
		JR	\$ra			# return to caller	