

The background features a series of concentric circles in light gray, some solid and some dashed, creating a ripple effect. A large, solid green oval is centered on the page, containing the main text. A dark gray, curved shape is positioned to the left of the green oval, partially overlapping it.

Worksheet – 9 Solution

From lecture given on 2/11/2019

Summarize the effect of the following MIPS instructions

la \$a0, array	// Load address of "array" data segment into \$a0
addi \$t0, \$a0, 4	// \$t0 := \$a0 + 4
lw \$t1, 0(\$t0)	// Load contents of address \$t0 into \$t1
lw \$t2, 4(\$t0)	// Load contents of address (\$t0 + 4) into \$t2
sw \$t2, 0(\$t0)	// Store contents of \$t2 into address
sw \$t1, 4(\$t0)	// Store contents of \$t1 into address (\$t0 + 4)

array:

.word 5, 4, 3, 2, 1

```
la $a0, array
addi $t0, $a0, 4
lw $t1, 0($t0)
lw $t2, 4($t0)
sw $t2, 0($t0)
sw $t1, 4($t0)

array:
.word 5, 4, 3, 2, 1
```

WORD				Assuming Little Endian	
HALF		HALF			
BYTE	BYTE	BYTE	BYTE		
+3	+2	+1	+0	Starting address	Word Value
0x00	0x00	0x00	0x05	array	5
0x00	0x00	0x00	0x04	array+4	4
0x00	0x00	0x00	0x03	array+8	3
0x00	0x00	0x00	0x02	array+12	2
0x00	0x00	0x00	0x01	array+16	1

EFFECT of the given MIPS code :
Memory locations of 3 & 4 in the word array
are switched.