HomeWork 2

Monday, February 26, 2024 6:09 PM

2.3: li $t1, 32
add $t0, $s6, $t1
lw $t0, 0($t0)

sub $t2, $s3, $s4
sll $t2, $t2, 2
add $t2, $t2, $s7
sw $t0, 0($t2)

2.4:
```
addi $t2, $t0, 4    # $t2 register stores the $t0 +4
lw $t0, 0($t2)      # loads $t2 and stores in $t0
add $t0, $t0, $s0   # Adds values stored in t0 and s0 and stores in t0
sw $t0, 0($t1)      # Stores t0 in the memory address stored in t0
```

2.23.1: This would be an Itype format because it deals with Immediate values and value changes.

2.23.2:
```
Main:
  li $s0, 29
Loop_start:
  addi $s0, $s0, -1
  bnez $s0, loop_start
```

2.24.1: The value of $s2 will be 10 · 2 = 20

2.24.2:
```
C Code:
    Int A= 10; // $T1

    Int B =0; //$s2

    while (A> 0) { // Loop
        A= A-1;

        B = B +2;

    }
```

2.24.3: $s1 is the value n and the loop instructions is 5 · n

2.24.3: $s+1 is the value n and the loop instructions is 5·n

Number of MIPS Instructions executed: 5·N

2.31

```
addi $sp, $sp, -12
sw $ra, 1($sp)
sw $a2, 4($sp)
sw $a3, 8($sp)
jal func
add $a0, $v0, $0
lw $a2, 4($sp)
lw $a3, 8($sp)
add $a1, $a2, $a3
jal func
lw $ra, ($sp)
addi $sp, $sp, 12
jr $ra
```