**CMPE 200 Assignment 4 Test Log**

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Record the observed contents of registers and data memory after each instruction is executed.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Addr | MIPS Instruction | Machine Code | Registers | | | | Memory Content | |
| $a1 | $sp | $ra | $v0 | [0x00] | [0x10] |
| 3034 | lw $t0, 100($a0) | 0x8c880064 | 0x00000032 | 0x00002ffc | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000000 |
| 3038 | lw $t1, 120($a0) | 0x8c890078 | 0x00000032 | 0x00002ffc | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000000 |
| 303c | add $t1, $t0, $t1 | 0x01094820 | 0x00000032 | 0x00002ffc | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000000 |
| 3040 | addi $t0, $0, 30 | 0x2008001e | 0x00000032 | 0x00002ffc | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000000 |
| 3044 | divu $t1, $t0 | 0x0128001b | 0x00000032 | 0x00002ffc | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000000 |
| 3048 | mflo $a1 | 0x00002812 | 0x00000005 | 0x00002ffc | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000000 |
| 304c | sw $a1, 0($0) | 0xac050000 | 0x00000005 | 0x00002ffc | 0x00000000 | 0x00000000 | 0x00000005 | 0x00000000 |
| 3050 | jal factorial | 0x0c000c19 | 0x00000005 | 0x00002ffc | 0x00003054 | 0x00000000 | 0x00000005 | 0x00000000 |
| 3054 | add $s0, $v0, $0 | 0x00408020 | 0x00000005 | 0x00002ffc | 0x00003054 | 0x00000078 | 0x00000005 | 0x00000000 |
| 3058 | sw $s0, 16($0) | 0xac100010 | 0x00000005 | 0x00002ffc | 0x00003054 | 0x00000078 | 0x00000005 | 0x00000078 |
| 305c | li $v0, 10 | 0x2402000a | 0x00000005 | 0x00002ffc | 0x00003054 | 0x0000000a | 0x00000005 | 0x00000000 |
| 3060 | syscall | 0x0000000c | 0x00000005 | 0x00002ffc | 0x00003054 | 0x0000000a | 0x00000005 | 0x00000000 |
| 3064 | addi $sp, $sp, -8 | 0x23bdfff8 | 0x00000001 | 0x00002fd4 | 0x00003090 | 0x00000000 | 0x00000005 | 0x00000000 |
| 3068 | sw $a1, 4($sp) | 0xafa50004 | 0x00000001 | 0x00002fd4 | 0x00003090 | 0x00000000 | 0x00000005 | 0x00000000 |
| 306c | sw $ra, 0($sp) | 0xafbf0000 | 0x00000001 | 0x00002fd4 | 0x00003090 | 0x00000000 | 0x00000005 | 0x00000000 |
| 3070 | addi $t0, $0, 2 | 0x20080002 | 0x00000001 | 0x00002fd4 | 0x00003090 | 0x00000000 | 0x00000005 | 0x00000000 |
| 3074 | slt $t0, $a1, $t0 | 0x00a8402a | 0x00000001 | 0x00002fd4 | 0x00003090 | 0x00000000 | 0x00000005 | 0x00000000 |
| 3078 | beq $t0, $0, else | 0x11000003 | 0x00000001 | 0x00002fd4 | 0x00003090 | 0x00000000 | 0x00000005 | 0x00000000 |
| 307c | addi $v0, $0, 1 | 0x20020001 | 0x00000001 | 0x00002fd4 | 0x00003090 | 0x00000001 | 0x00000005 | 0x00000000 |
| 3080 | addi $sp, $sp, 8 | 0x23bd0008 | 0x00000001 | 0x00002fdc | 0x00003090 | 0x00000001 | 0x00000005 | 0x00000000 |
| 3084 | jr $ra | 0x03e00008 | 0x00000001 | 0x00002fdc | 0x00003090 | 0x00000001 | 0x00000005 | 0x00000000 |
| 3088 | addi $a1, $a1, -1 | 0x20a5ffff | 0x00000001 | 0x00002fdc | 0x00003090 | 0x00000000 | 0x00000005 | 0x00000000 |
| 308c | jal factorial | 0x0c000c19 | 0x00000001 | 0x00002fdc | 0x00003090 | 0x00000000 | 0x00000005 | 0x00000000 |
| 3090 | lw $ra, 0($sp) | 0x8fbf0000 | 0x00000004 | 0x00002ff4 | 0x00003054 | 0x00000018 | 0x00000005 | 0x00000000 |
| 3094 | lw $a1, 4($sp) | 0x8fa50004 | 0x00000005 | 0x00002ff4 | 0x00003054 | 0x00000018 | 0x00000005 | 0x00000000 |
| 3098 | addi $sp, $sp, 8 | 0x23bd0008 | 0x00000005 | 0x00002ffc | 0x00003054 | 0x00000018 | 0x00000005 | 0x00000000 |
| 309c | mul $v0, $a1, $v0 | 0x70a21002 | 0x00000005 | 0x00002ffc | 0x00003054 | 0x00000078 | 0x00000005 | 0x00000000 |
| 30a0 | jr $ra | 0x03e00008 | 0x00000005 | 0x00002ffc | 0x00003054 | 0x00000078 | 0x00000005 | 0x00000000 |
| 30a4 |  |  |  |  |  |  |  |  |