**CMPE200 Assignment 3 Task 1 Test Log**

**Algorithm 1**

**Programmer’s Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Adr | MIPS Instruction | Machine Code | | **Registers** | | | | |
| $a0 | $a1 | $s0 | $s1 | $s2 |
| 3000 | ori $a0, $0, 0x8000 | | 0x34048000 | 0x00008000 | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000000 |
| 3004 | ori $a1, $0, 0x00A9 | | 0x340500a9 | 0x00008000 | 0x000000a9 | 0x00000000 | 0x00000000 | 0x00000000 |
| 3008 | ori $s0, $0, 1974 | | 0x341007b6 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x00000000 | 0x00000000 |
| 300c | multu $a0, $a0 | | 0x00840019 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x00000000 | 0x00000000 |
| 3010 | mflo $s1 | | 0x00008812 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x00000000 |
| 3014 | addi $t0, $0, 0x20 | | 0x20080020 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x00000000 |
| 3018 | sw $s1, 0($t0) | | 0xad110000 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x00000000 |
| 301c | multu $s1, $a1 | | 0x02250019 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x00000000 |
| 3020 | mfhi $s2 | | 0x00009010 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x0000002a |
| 3024 | sw $s1, 4($t0) | | 0xad110004 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x0000002a |
| 3028 | sw $s2, 8($t0) | | 0xad120008 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x0000002a |
| 302c | srl $s2, $s1, 16 | | 0x00119402 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x00004000 |
| 3030 | jal compute | | 0x0c000c13 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x00004000 |
| 3034 | sw $s0, 12($t0) | | 0xad10000c | 0x00008000 | 0x000000a9 | 0x000003df | 0x40000000 | 0x00004000 |
| 3038 | addi $t3, $0, 1 | | 0x200b0001 | 0x00008000 | 0x000000a9 | 0x000003df | 0x40000000 | 0x00004000 |
| 303c | while: slti $t1, $s0, 1665 | | 0x2a090681 | 0x00008000 | 0x000000a9 | 0x000003df | 0x40000000 | 0x00004000 |
| 3040 | beq $t1, $t3, done | | 0x112b0007 | 0x00008000 | 0x000000a9 | 0x000003df | 0x40000000 | 0x00004000 |
| 3044 | jal compute | | 0x0c000c13 |  |  |  |  |  |
| 3048 | j while | | 0x08000c0f |  |  |  |  |  |
| 304c | compute: divu $s2, $s0 | | 0x0250001b | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x00004000 |
| 3050 | mflo $t1 | | 0x00004812 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x00004000 |
| 3054 | add $t1, $s0, $t1 | | 0x02094820 | 0x00008000 | 0x000000a9 | 0x000007b6 | 0x40000000 | 0x00004000 |
| 3058 | srl $s0, $t1, 1 | | 0x00098042 | 0x00008000 | 0x000000a9 | 0x000003df | 0x40000000 | 0x00004000 |
| 305C | jr $ra | | 0x03e00008 | 0x00008000 | 0x000000a9 | 0x000003df | 0x40000000 | 0x00004000 |
| 3060 | done: sll $s0, $s0, 8 | | 0x00108200 | 0x00008000 | 0x000000a9 | 0x0003df00 | 0x40000000 | 0x00004000 |
| 3064 | sw $s0, 16($t0) | | 0xad100010 | 0x00008000 | 0x000000a9 | 0x0003df00 | 0x40000000 | 0x00004000 |
| 3068 |  | |  |  |  |  |  |  |
| 306C |  | |  |  |  |  |  |  |

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| --- | --- | --- | --- | --- |
| **Memory contents** | | | | |
| Word @ 0x20 | Word @ 0x24 | Word @ 0x28 | Word @ 0x2C | Word @ 0x30 |
| 0x40000000 | 0x40000000 | 0x0000002a | 0x000003df | 0x0003df00 |

**CMPE200 Assignment 3 Task 2 Test Log**

**Algorithm 2**

**Programmer’s Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Adr | MIPS Instruction | Machine Code | Registers | | | | Memory Content | |
| **$a0** | **$s0** | **$t0** | **$t1** | Word @ 0x00 | Word @ 0x10 |
| 3000 | ori $a0, $0, 5 | 0x34040005 | 0x00000005 | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000000 |
| 3004 | sw $a0, 0($t0) | 0xad040000 | 0x00000005 | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000005 | 0x00000000 |
| 3008 | ori $t1, $0, 1 | 0x34090001 | 0x00000005 | 0x00000000 | 0x00000000 | 0x00000001 | 0x00000005 | 0x00000000 |
| 300c | while: beq $a0, $0, done | 0x10800004 | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000078 | 0x00000005 | 0x00000000 |
| 3010 | mult $t1, $a0 | 0x01240018 | 0x00000001 | 0x00000000 | 0x00000000 | 0x00000078 | 0x00000005 | 0x00000000 |
| 3014 | mflo $t1 | 0x00004812 | 0x00000001 | 0x00000000 | 0x00000000 | 0x00000078 | 0x00000005 | 0x00000000 |
| 3018 | addi $a0, $a0, -1 | 0x2084ffff | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000078 | 0x00000005 | 0x00000000 |
| 301c | j while | 0x08000c03 | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000078 | 0x00000005 | 0x00000000 |
| 3020 | done: sw $t1, 16($t0) | 0xad090010 | 0x00000000 | 0x00000000 | 0x00000000 | 0x00000078 | 0x00000005 | 0x00000078 |
| 3024 | lw $s0, 16($t0) | 0x8d100010 | 0x00000000 | 0x00000078 | 0x00000000 | 0x00000078 | 0x00000005 | 0x00000078 |
| 3028 |  |  |  |  |  |  |  |  |