**CMPE140 Lab 3 Task 1 Test Log**

**Algorithm 1**

**Programmer’s Name:** Sidarth Shahri & Karine Worley

**Checked by:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Adr | MIPS Instruction | Machine Code | **Registers (in hex)** | | | | |
| $a0 | $a1 | $s0 | $s1 | $s2 |
| 3000 | ori $4, $0, 0x8000 | 34048000 | 8000 | 0 | 0 | 0 | 0 |
| 3004 | ori $5, $0, 0x00A9 | 340500a9 | 8000 | a9 | 0 | 0 | 0 |
| 3008 | ori $16, $0, 1974 | 341007b6 | 8000 | a9 | 7b6 | 0 | 0 |
| 300c | mult $4, $4 | 00840018 | 8000 | a9 | 7b6 | 0 | 0 |
| 3010 | mflo $17 | 00008812 | 8000 | a9 | 7b6 | 4000  0000 | 0 |
| 3014 | sw $17, 0x20($0) | ac110020 | 8000 | a9 | 7b6 | 4000  0000 | 0 |
| 3018 | mult $17, $5 | 02250018 | 8000 | a9 | 7b6 | 4000  0000 | 0 |
| 301c | mflo $18 | 00009012 | 8000 | a9 | 7b6 | 4000  0000 | 4000  0000 |
| 3020 | sw $18, 0x24($0) | ac120024 | 8000 | a9 | 7b6 | 4000  0000 | 4000  0000 |
| 3024 | mfhi $19 | 00009810 | 8000 | a9 | 7b6 | 4000  0000 | 4000  0000 |
| 3028 | sw $19, 0x28($0) | ac130028 | 8000 | a9 | 7b6 | 4000  0000 | 4000  0000 |
| 302c | sll $19, $19, 16 | 00139c00 | 8000 | a9 | 7b6 | 4000  0000 | 4000  0000 |
| 3030 | srl $18, $18, $19 | 00129402 | 8000 | a9 | 7b6 | 4000  0000 | 4000 |
| 3034 | or $18, $18, $19 | 02539025 | 8000 | a9 | 7b6 | 4000  0000 | 2a4000 |
| 3038 | div $18, $16 | 0250001a | 8000 | a9 | 7b6 | 4000  0000 | 2a4000 |
| 303c | mflo $19 | 00009812 | 8000 | a9 | 7b6 | 4000  0000 | 2a4000 |
| 3040 | add $19, $19, $16 | 02709820 | 8000 | a9 | 7b6 | 4000  0000 | 2a4000 |
| 3044 | addiu $20, $0, 2 | 24140002 | 8000 | a9 | 7b6 | 4000  0000 | 2a4000 |
| 3048 | div $19, $20 | 0274001a | 8000 | a9 | 7b6 | 4000  0000 | 2a4000 |
| 304c | mflo $16 | 00008012 | 8000 | a9 | 698 | 4000  0000 | 2a4000 |
| 3050 | sw $16, 44($0) | ac10002c | 8000 | a9 | 698 | 4000  0000 | 2a4000 |
| 3054 | addiu $19, $0, 1665 | 24130681 | 8000 | a9 | 698 | 4000  0000 | 2a4000 |
| 3058 | slt $20, $19, $16 | 270a02a | 8000 | a9 | 698 | 4000  0000 | 2a4000 |
| 305C | bne $20, $0, -10 | 1680fff6 | 8000 | a9 | 698 | 4000  0000 | 2a4000 |
| 3060 | sll $16, $16, 8 | 108200 | 8000 | a9 | 68000 | 4000  0000 | 2a4000 |
| 3064 | sw $16, 48($0) | ac100030 | 8000 | a9 | 68000 | 4000  0000 | 2a4000 |
| 3068 |  |  |  |  |  |  |  |
| 306C |  |  |  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Memory contents** | | | | |
| Word @ 0x20 | Word @ 0x24 | Word @ 0x28 | Word @ 0x2C | Word @ 0x30 |
| 40000000 | 40000000 | 0000002a | 00000680 | 00068000 |

**CMPE140 Lab 3 Task 2 Test Log**

**Algorithm 2**

**Programmer’s Name:** Sidarth Shahri & Karine Worley

**Checked by:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Adr | MIPS Instruction | Machine Code | Registers (in hex) | | | | Memory Content (in hex) | |
| **$a0** | **$s0** | **$s3** | **$s4** | Word @ 0x00 | Word @ 0x10 |
| 3000 | main: ori $4, $0, 5 | 34040005 | 5 | 0 | 0 | 0 | 0 | 0 |
| 3004 | sw $4, ($0) | ac040000 | 5 | 0 | 0 | 0 | 5 | 0 |
| 3008 | ori $16, $0, 1 | 34100001 | 5 | 1 | 0 | 0 | 5 | 0 |
| 300c | loop: li $19, 1 | 24130001 | 5 | 1 | 1 | 0 | 5 | 0 |
| 3010 | mult $16, $4 | 02040018 | 5 | 1 | 1 | 0 | 5 | 0 |
| 3014 | mflo $16 | 00008012 | 5 | 5 | 1 | 0 | 5 | 0 |
| 3018 | sub $4, $4, $19 | 00932022 | 4 | 5 | 1 | 0 | 5 | 0 |
| 301c | slt $20, $19, $4 | 0264a02a | 4 | 5 | 1 | 1 | 5 | 0 |
| 3020 | bne $20, $0, loop | 1680fffa | 4 | 5 | 1 | 1 | 5 | 0 |
| 3024 | sw $16, 0x10($0) | ac100010 | 1 | 78 | 1 | 0 | 5 | 78 |
| 3028 |  |  |  |  |  |  |  |  |