

CMPE200 Assignment 3 Task 1 Test Log

Algorithm 1

Programmer's Name: Tirumala Saiteja Goruganthu

Date: 09-24-2022

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							

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: Tirumala Saiteja Goruganthu

Date: 09-24-2022

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								