

1)

1010 1101 0001 0000 0000 0000 0000 0010

A) 1's complement: 0101 0010 1110 1111 1111 1111 1111 1101
 2's complement 0101 0010 1110 1111 1111 1111 1111 1110 = 1391460350
 2's complement signed = -139,460,350

Mips op ⁶	rs ⁵	rt ⁵	Immediate		
101011	01000	10000	00000	00000	000010
43	8	16	0	0	2
Store word	\$t0	\$s0			

MIPS = sw \$s0, 2(\$t0)

2) ~~addu \$t1, \$t2, \$t3~~
 addu \$t1, \$t2, \$zero
 bgez \$t2, next
 Subu \$t1, \$zero, \$t2
 Next:

3) ~~addu \$t1~~

a) addu \$t1, \$t2, \$zero

b) addu \$t5, \$zero, \$zero

c) lui \$t5, upper16
 ori \$t5, \$t5, lower16

d) Lui \$at, upper16
 Ori \$at, \$at, lower16
 add \$t5, \$t3, Label

e) Lui. \$at upper16
 ori \$at \$at, lower16
 beq \$t5 \$at, Label

f) slt \$at, \$t3, \$t5
 beq \$at, \$zero, Label

g) slt \$at, \$t3, \$t5
 bne \$at, \$zero, Label

h) slt \$at, \$t3, \$t5
 beq \$at, \$zero, Label

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A) bgt \$s0, \$s1, A1
ble \$s1, \$s2, next

A1:

~~ori~~ ori \$s3, \$zero, 1
next:

B) bgt \$s0, \$s1, next
ble \$s1, \$s2, Next
~~(ori \$s3, \$zero, 1)~~
ori \$s3, \$zero, 1

Next:



5) addu \$t0, \$zero, \$zero
addu \$t1, \$a0, \$zero
addu \$t2, \$a1, \$zero
addiu \$t3, \$zero, 101

Loop: lw \$t4, 0(\$t2)
addu \$t5, \$t4, \$s0
sw \$t5, 0(\$t1)
addiu \$t0, \$t0, 1
addiu \$t1, \$t1, 4
addiu \$t2, \$t2, 4
bne \$t0, \$t3, Loop

6. Line 1: # $\$t0 = 0$
 Line 2: # $\$t1 = 1$
 Line 3: # ~~$\$a0 = 0$~~ $(\$t1 > \$a0) \text{ or } (\$a0 = \$t1)$
 Line 4: # exits loop when $(\$t1 > \$a0)$
 Line 5: # $\$t0 = \$t0 + \$t1$
 Line 6: # $\$t1 = \$t1 + 2$
 Line 7: # Loop repeat
 Line 8: # $\$v0 = \$t0$

~~7.~~ $\$v0$ or the output is the Sum of odd positive integers less than or equal to n .

7. This code checks the array for matching values. $\$v0$ is the number of occurrences of the ~~most~~ element that has the most matches where $\$v1$ is the actual value of the repeated elements.