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Homework 1

1) 123 to signed & unsigned 32 bit, then in hexidecimal

unsigned

$2\overline{)123}$ r1

$2\overline{)61}$ r1

$2\overline{)30}$ r0

$2\overline{)15}$ r1

$2\overline{)7}$ r1

1

1

0111 1011

7 B

Unsigned

$00000000\ 00000000\ 00000000\ 01111011_2$

Signed

$00000000\ 00000000\ 00000000\ 01111011_2$

unsigned Hexidecimal

$7B_{16}$

Signed Hexideimal

$7B_{16}$

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2) -23 to signed & unsigned 32 bit with hexadecims

unisisnd you do |-23| Signed

00010111

11101000

+ 1

11101001

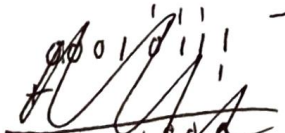
23

-16

7

-4

3



Unsigned Binary

$00000000\ 00000000\ 00000000\ 00010111_2$

Signed Binary

$11111111\ 11111111\ 11111111\ 11101001_2$

Unsigned Hexidemial

17_{16}

Signed Hexidemial

$FFFFFFE9_{16}$

To Hex

0001 0111

1 7

1111 = F

1111 1111 1111 1111 1111 1111 1110 1001

F F F F F F E 9

3) $g = g - A[3] - 23$

```
lw   $t0, 12($s0)  #load
Sub  $t1, $s1, $t0  # g-A[3]
addi $s1, $t1, -23  # g-A[3]-23
```

4) $A[i+1] = g + A[12] + 1$

```
lw   $t0, 48[$s0)   # load A[12]
add  $t1, $s1, t0     # g + A[12)
addi $t1, $t1, 1      ##$t1 + 1
addi $t2, $s2, 1      # [i+1]
add  $t2, $t2, $t2    # 2[i+1]
add  $t2, $t2, $t2    #4[i+1]
add  $t2, $s0, $t2  # 8A[i+1]
sw   $t1, 0($t2)    # Store A[i+1] <- $t1
```