

.1

```

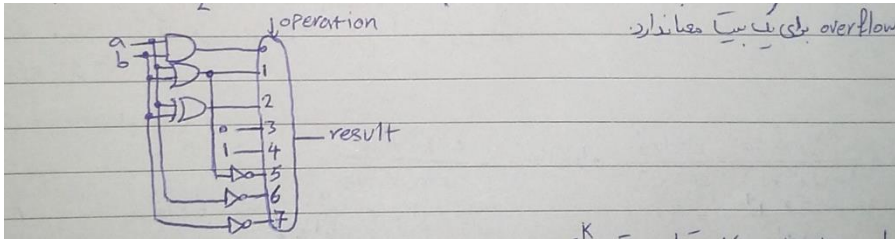
sll $v0,$t0,7 # $v0 = 128 * t0
sll $t3,$t0,2 # $t3 = 4 * t0
add $t3,$t3,$t0 # $t3 = 5 * t0
sub $v0,$v0,$t3 # $v0 = 123 * t0
sll $t3,$t1,4 # $t3 = 16 * t1
sub $t3,$t3,$t1 # $t3 = 15 * t1
sub $v0,$v0,$t3 # $v0 = 123 * t0 - 15 * t1
sll $t2,$t2,3 # $t2 = 8 * t2

```

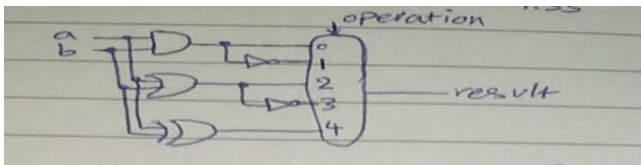
$128 t_0 - 5 t_0 = 123 t_0$
($4 t_0 + t_0$)

Div \$v0,\$v0,\$t2

.2



.3



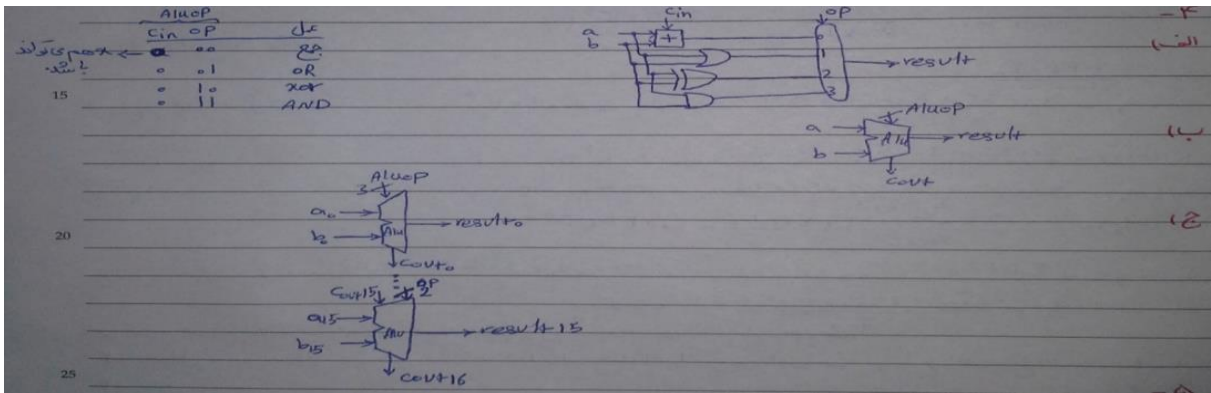
.4

```

sll $v0,$t0,4 }
sub $v0,$v0,$t0 } → 15 * t0
sll $t2,$t1,4 }
add $t2,$t2,$t1 } → 17 * t1
add $v0,$v0,$t2
srl $v0,$v0,4      ← 16

```

.5



10110000 (الف) 11101110 (ب) 11101101 (ج)

	m ₁	m ₀	Cin	B _{inv}	Az
ADD	0	0	0	0	1
sub	0	0	1	1	1
or	1	0	-	0	1
AND	0	1	-	0	1
negative	1	0	-	0	1
B	0	0	0	1	0

دفعه‌های مختلف می‌توانند انجام شوند.
 عددی می‌تواند جواب باشد.

.8

operation	b _{invert}	b _{negate}	carry _{in}
operation = 10	b _{invert} = b _{negate} = carry _{in} = 0		
operation = 11	b _{invert} = b _{negate} = carry _{in} = 1		
result = 80000000h	overflow = 1		
$\bar{b} = \text{FFFFFFFFh}$	result = 00000000h	$[a - b < 0 \Rightarrow a < b]$	slt
$\bar{b} + 1 = \text{FFFFFFFFh}$	overflow = 0	set = 0	$a + \bar{b} + 1 = \text{FFFFFFFFh}$
result = 7FFFFFFFh	overflow = 0		$a - b = a + \bar{b} + 1$
$a \cdot \bar{b} = \text{result} = 7FFFFFFFh$			AND
$a + \bar{b} = \text{result} = \text{FFFFFFFFh}$			OR