

KHILYATIN ULIN FITRI – L200154001
HOMEWORK
ORGANISASI DAN ARSITEKTUR KOMPUTER

1. $12 \times 10 = 120$

C	A	Q	M	
0	0000	1010	1100	
n = 4 $Q_0 = 0$				
0	1100	1010	1100	
0	0110	0101	1100	
n = 3 $Q_0 = 1$				
1	0010	0101	1100	
0	1001	0010	1100	
n = 2 $Q_0 = 0$				
0	0110	0010	1100	
0	0011	0001	1100	
n = 1 $Q_0 = 1$				
0	1111	0001	1100	
0	0111	1000	1100	

$$\begin{array}{r} 0110 \\ 1100 \\ \hline 1\ 0010 \end{array}$$

$$\begin{array}{r} 0011 \\ 1100 \\ \hline 1111 \end{array}$$

120

2. $(-12) \times 10$

A	Q	Q ₋₁	M	Count	
0000	0100	0	1010	4	
0000	0010	0	1010	3	
0000	0001	0	1010	2	
A = A - M					
0110	0001	0	1010	2	
0011	0000	1	1010	1	
A = A + M					
1101	0000	1	1010	1	
1110	1000	0	1010	0	

A - M
 A + (-M)

$$\begin{array}{r} 0000 \\ 0110 \\ \hline 0110 \end{array}$$

A + M

$$\begin{array}{r} 0011 \\ 1010 \\ \hline 1101 \end{array}$$

3. $12 \times (-10)$

A	Q	Q ₋₁	M	Count	
0000	1100	0	0110	4	
0000	0110	0	0110	3	
0000	0011	0	0110	2	
A = A - M					
1010	0011	0	0110	2	
1101	0001	1	0110	1	
1110	1000	1	0110	0	

A - M
 A + (-(-M))

$$\begin{array}{r} 0000 \\ 1010 \\ \hline 1010 \end{array}$$

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4. $(-12) \times (-10)$

A	Q	Q-1	M	Count	
0000	0100	0	0110	4	
0000	0010	0	0110	3	
0000	0001	0	0110	2	
A = A - M					<div style="border: 1px solid black; padding: 2px; display: inline-block;"> A - M A + (-(-M)) </div>
1010	0001	0	0110	2	0000
1101	0000	1	0110	1	1010
A = A + M					<div style="border: 1px solid black; padding: 2px; display: inline-block;"> A + M </div>
0011	0000	1	0110	1	1101
0001	1000	0	0110	0	0110
					1 0011