ALDEN LUTHFI

2 2 0 6 0 2 8 9 3 2

1. (a) 379_{10} = 0 0 0 1 0 1 1 1 1 0 1 1

-379_{10} = 1 0 0 0 0 0 0 0 1 0 1 1 1 1 0 1 1 $_{SM}$

= 1 1 1 1 1 1 1 1 0 1 0 0 0 0 1 0 0 $_{1S}$

= 1 1 1 1 1 1 1 1 0 1 0 0 0 0 1 0 1 $_{2S}$

(b) 643_8 = 0 1 1 0 1 0 0 0 1 1

-643_8 = 1 0 0 0 0 0 0 0 1 1 0 1 0 0 0 1 1 $_{SM}$

= 1 1 1 1 1 1 1 1 0 0 1 0 1 1 1 0 0 $_{1S}$

= 1 1 1 1 1 1 1 1 0 0 1 0 1 1 1 0 1 $_{2S}$

(c) $67C_{16}$ = 0 1 1 0 0 1 1 1 1 0 0

$-67C_{16}$ = 1 0 0 0 0 1 1 0 0 1 1 1 1 1 0 0 $_{SM}$

= 1 1 1 1 1 0 0 1 1 0 0 0 0 0 1 1 $_{1S}$

= 1 1 1 1 1 0 0 1 1 0 0 0 0 1 0 0 $_{2S}$

(d) 1112_8 = 0 0 1 0 0 1 0 0 1 0 1 0

-1112_8 = 1 0 0 0 0 0 1 0 0 1 0 0 1 0 1 0 $_{SM}$

= 1 1 1 1 1 1 0 1 1 0 1 1 0 1 0 1 $_{1S}$

= 1 1 1 1 1 1 0 1 1 0 1 1 0 1 1 0 $_{2S}$

(e) 521_7 = 0 1 0 0 0 0 0 1 0 0

-521_7 = 1 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0 $_{SM}$

= 1 1 1 1 1 1 1 0 1 1 1 1 1 0 1 1 $_{1S}$

= 1 1 1 1 1 1 1 0 1 1 1 1 1 1 0 0 $_{2S}$

2. (a) $10001_{2S} + 1001_{1S}$

$= -15_{10} + (-6_{10})$

$= -21_{10}$

$= 10101_{SM}$

ALDEN LUTHFI
2 2 0 6 0 2 8 9 3 2

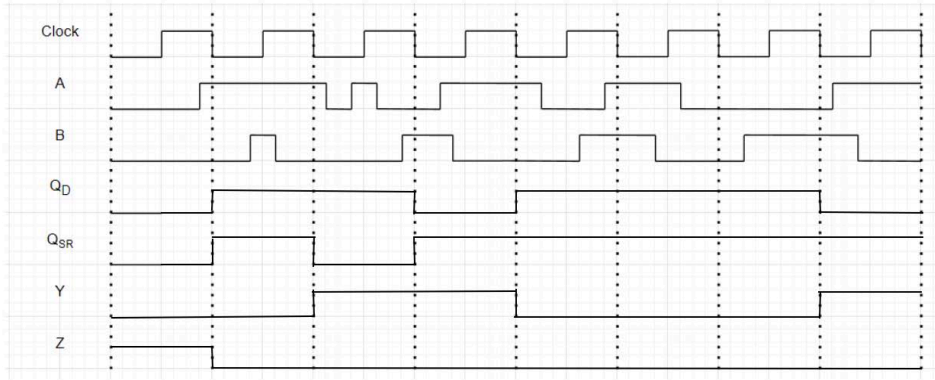
(b.) $11001101_{2s} - 37_8$
$= -51_{10} - 31_{10} = -82_{10}$
$= 10101101_{1s}$

(c.) $1010_{SM} - 1C_{16}$
$= -5_{10} - 28_{10} = -33_{10}$
$= 11011110_{1s}$

(d.) $11001101_{1s} + 11001_2$
$= -50_{10} + 25_{10} = -25_{10}$
$= 11100111_{2s}$

(e.) $41_7 - 30\ Y_5$
$= 33_{10} - 79_{10} = -54_{10}$
$= 11001010_{2c}$

REVISI NO 5



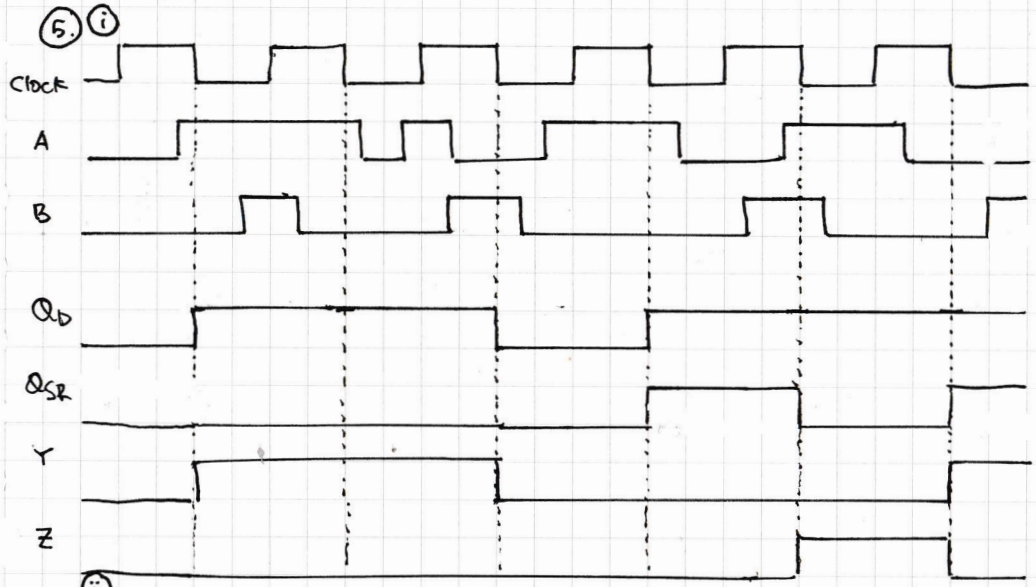
ALDEN LUTHFI
2 2 0 6 0 2 8 9 3 2

(a.)

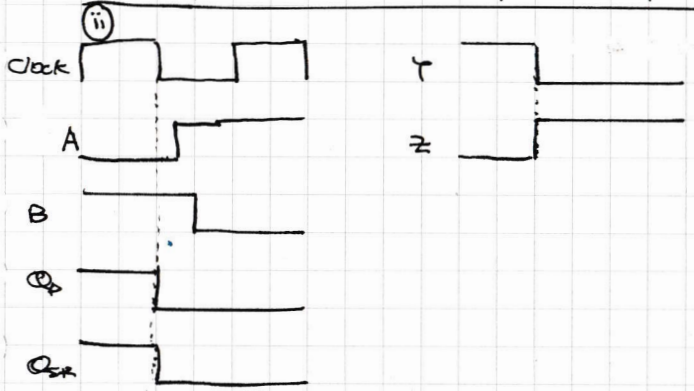
(4.) Synchronous : perubahan terjadi berdasarkan clock pada waktu tertentu
Asynchronous: tidak ditentukan oleh clock

(b.) Latch adalah sequential circuit yang ~~edg~~ level-triggered sedangkan flip-flop adalah sirkuit yang edge-triggered

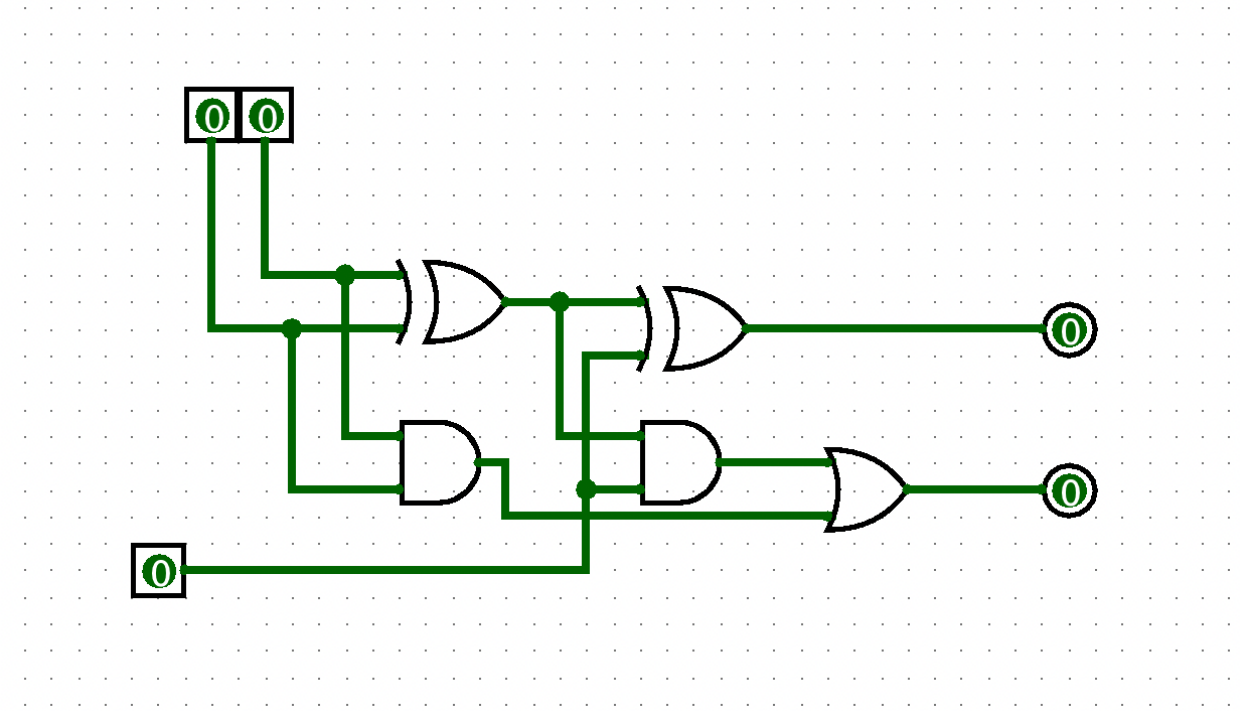
(5.) (i)



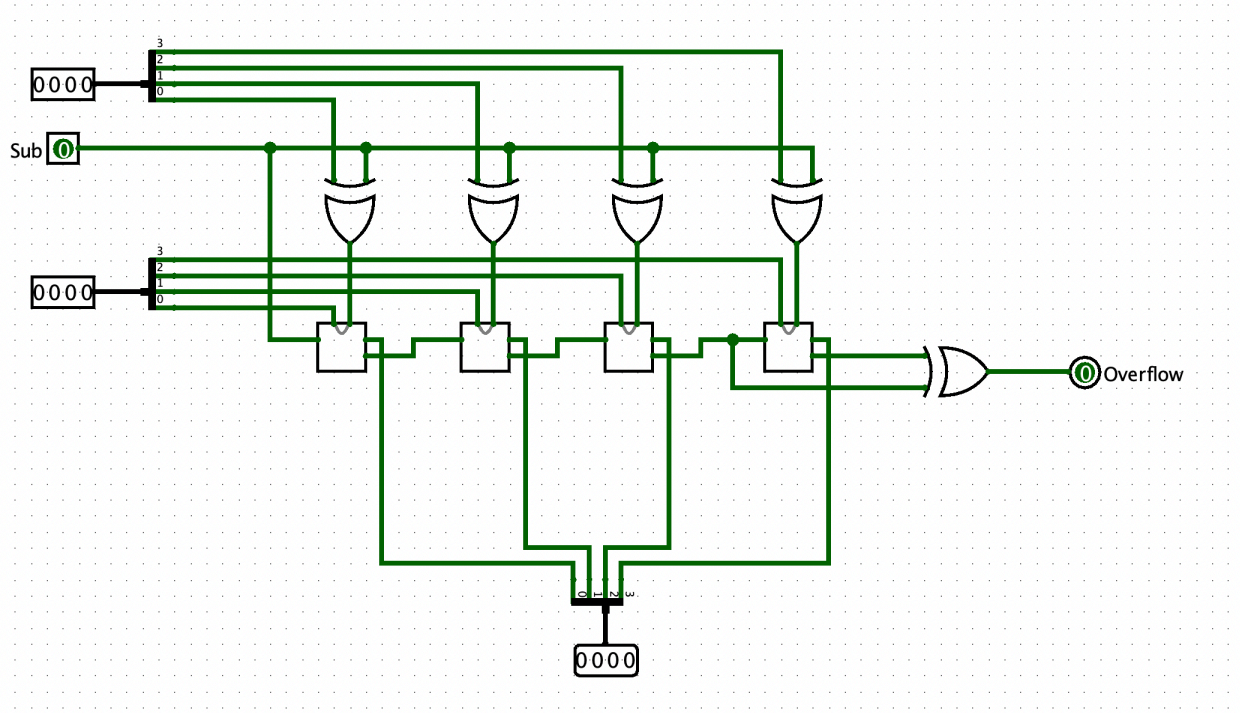
(ii)



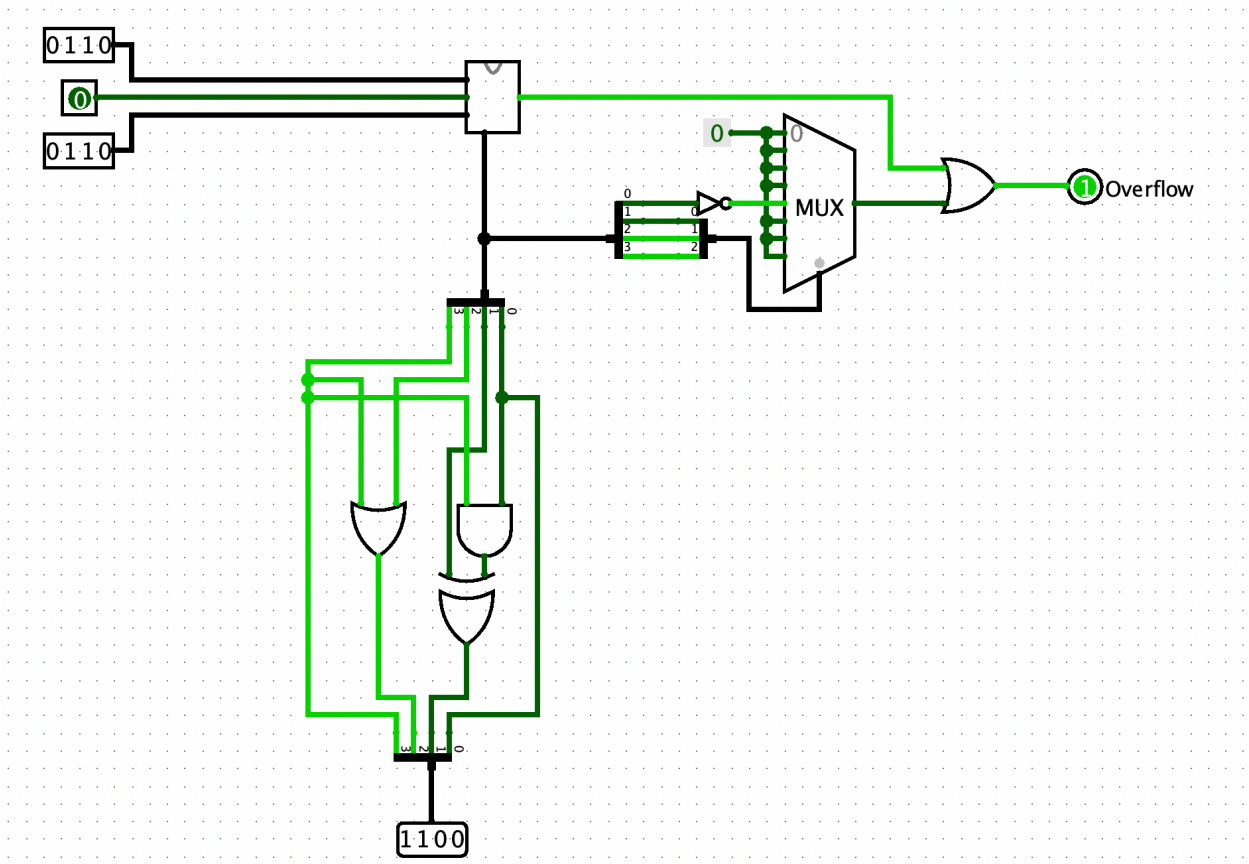
3. One Bit Adder



Four Bit Adder Cum Substractor



2s Complement to Sign Magnitude Converter



Final Circuit