Project   An Enhanced 9-bit Processor

Objective:

In Lab13-1, we described a simple processor. In this project, we continue working on it to design an enhanced 9-bit Processor.

Design Requirement:

Operation	Function Performed
mv Rx, Ry	Rx ← [Ry]
mvi Rx, #D	Rx ← D
add Rx, Ry	Rx ← [Rx] + [Ry]
dec G	G ← [G] - 1
mvnz Rx, Ry	if G != 0, Rx ← [Ry]
swap Rx, Ry	Rx ↔ Ry
xor Rx, Ry	Rx ← [Rx] xor [Ry]
shl Rx, #n	Rx shifts left n bit, n<8

Remark:

- dec   G   G 暫存器的內容減一.
- mvnz   Rx, Ry   當 G 暫存器的內容不為 0 時, Ry 暫存器的內容指定給 Rx 暫存器.
- swap   Rx, Ry   Rx 暫存器的內容與 Ry 暫存器的內容交換.
- xor   Rx, Ry   將 [Rx] xor [Ry] 的數值，指定給 Rx.
- shl   Rx, #n   Rx 暫存器的內容根據 #n (1~7) 的數字進行邏輯左移.

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