

## ADRESSING MODE

ADD R0, R1, R2

Dest SRC1

SRC 2

3 operands and all 3 use Register mode

AND R0, R0, #0 ← Immediate

LD R3, X4F

PC-Relative or PC + Offset

+2

Base + offset  
Indirect

PS # compute  $3 + 2 + 1$  and store @ M [ $x3050$ ]

.ORIG x3000  
00 AND R0, R0, #0  
01 ADD R0, R0, #3  
02 ADD R0, R0, #2  
03 ADD R0, R0, #1  
04 ST R0, x4B  
TRAP x25 = HALT

.END  
.ORIG x3050  
.BLKW #1  
.END

PS |

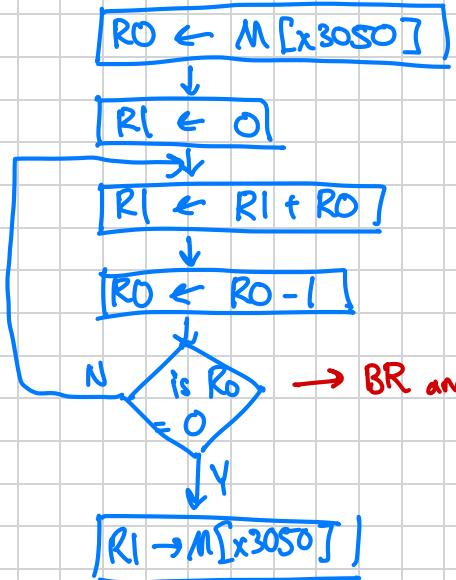
Compute  $N + (N - 1) + (N - 2)$

Sum =

N is @ x3050 Sum is @ x3051

## Algorithm

- ① get N into (RO)
  - ② Set sum = 0 (RI)
  - ③ Sum = Sum + RO
  - ④ Decrement (RO)
  - ⑤ If RO is nonzero then go back to ③
  - ⑥ Store RI to x 3051



	.ORIG	x3000
00	LD R0,	x4F
01	AND R1, R1,	#0
02	ADD R1, R1,	R0
03	ADD R0, R0,	#-1
04	BR np	#-3
05	ST R1,	x4B
	HALT	.
		END

$$\begin{array}{ll} BR & Z \Rightarrow Z = 1 \\ BR & NP \Rightarrow Z \neq 1 \end{array}$$