

ARM64 Operand Architecture

Operands:

Immediate

MOV X0,42

Register

MOV X0,X1

Call/Pass by Value

GP registers X0-X7/W0-W7

FP registers V0-V7/D0-D7/S0-S7

Memory

LDR X0,[X5]

Call/Pass by Reference

Load:

LDR X0, **[X1]**

Store:

STR X0, **[X1]**

Addressing modes:

[X1] – base register

[X1,offset] – offset

[X1,offset]! – pre-indexed

[X1],offset – post-indexed

label – PC relative label

Offset expressions:

[X1,10] – fixed integer

[X1,X2] – register

[X1,X2, LSL 2] – register shifted left by 2

[X1,W2, UXTW 2] – 32-bit register shifted left

Return:

Floating Point:
FP register V0/D0/S0

Everything else:
GP register X0/W0