ARM64 Register Architecture

General-Purpose Registers

X0 – X30 64-bit; W0 – W30 32-bit

X0
– parameter/result registers
X7

X8
Indirect result location register

X9
– temporary registers
X15

X16 – IP0
intra-procedure-call temp register

X17 – IP1
intra-procedure-call temp register

X18 – PR
Platform Register

X19
– callee-saved registers
X28

X29 – FP
Frame Pointer

X30 – LR
Link Register

Special Registers

SP
Stack Pointer

NZCV
global condition flag register

FPSR
Floating Point Status Register

FPCR
Floating Point Control Register

PC
Program Counter

XZR
Zero Register (abstract)

Floating Point & SIMD Registers

V0-V31 128-bit; D0-D31 64-bit; S0-S31 32-bit

D0
– argument/result value registers
D7

D8
– to be preserved across calls
D15

D16
– temporary registers
D31