

SMAX (immediate)

Signed Maximum (immediate) determines the signed maximum of the source register value and immediate, and writes the result to the destination register.

Integer
(FEAT_CSSC)

31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
sf	0	0	1	0	0	0	1	1	1	0	0	0	0	imm8				Rn				Rd									

32-bit (sf == 0)

SMAX <Wd>, <Wn>, #<sim>

64-bit (sf == 1)

SMAX <Xd>, <Xn>, #<sim>

```
if !IsFeatureImplemented(FEAT_CSSC) then UNDEFINED;
constant integer datasize = 32 << UInt(sf);
integer n = UInt(Rn);
integer d = UInt(Rd);
integer imm = SInt(imm8);
```

Assembler Symbols

- <Wd> Is the 32-bit name of the general-purpose destination register, encoded in the "Rd" field.
- <Wn> Is the 32-bit name of the general-purpose source register, encoded in the "Rn" field.
- <Xd> Is the 64-bit name of the general-purpose destination register, encoded in the "Rd" field.
- <Xn> Is the 64-bit name of the general-purpose source register, encoded in the "Rn" field.
- <sim> Is a signed immediate, in the range -128 to 127, encoded in the "imm8" field.

Operation

```
bits(datasize) operand1 = X[n, datasize];
integer result = Max(SInt(operand1), imm);
X[d, datasize] = result<datasize-1:0>;
```

Operational information

If PSTATE.DIT is 1:

- The execution time of this instruction is independent of:
 - The values of the data supplied in any of its registers.
 - The values of the NZCV flags.
- The response of this instruction to asynchronous exceptions does not vary based on:
 - The values of the data supplied in any of its registers.
 - The values of the NZCV flags.

Base Instructions	SIMD&FP Instructions	SVE Instructions	SME Instructions	Index by Encoding
-----------------------------------	--	----------------------------------	----------------------------------	-----------------------------------

[Sh](#)
[Pseu](#)

Internal version only: isa v33.64, AdvSIMD v29.12, pseudocode no_diffs_2023_09_RC2, sve v2023-06_rel ; Build timestamp: 2023-09-18T17:56

Copyright Â© 2010-2023 Arm Limited or its affiliates. All rights reserved. This document is Non-Confidential.