STSMAXH, STSMAXLH

Atomic signed maximum on halfword in memory, without return, atomically loads a 16-bit halfword from memory, compares it against the value held in a register, and stores the larger value back to memory, treating the values as signed numbers.

- STSMAXH does not have release semantics.
- STSMAXLH stores to memory with release semantics, as described in *Load-Acquire, Store-Release*.

For information about memory accesses, see *Load/Store addressing modes*.

This is an alias of [LDSMAXH, LDSMAXAH, LDSMAXALH, LDSMAXLH](#). This means:

- The encodings in this description are named to match the encodings of [LDSMAXH, LDSMAXAH, LDSMAXALH, LDSMAXLH](#).
- The description of [LDSMAXH, LDSMAXAH, LDSMAXALH, LDSMAXLH](#) gives the operational pseudocode, any constrained unpredictable behavior, and any operational information for this instruction.

Integer
(FEAT_LSE)

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
0	1	1	1	1	0	0	0	0	R	1	Rs	0	1	0	0	0	0	Rn	1	1	1	1	1
size							A					opc							Rt				

No memory ordering (R == 0)

        STSMAXH <Ws>, [<Xn|SP>]

is equivalent to

        LDSMAXH <Ws>, WZR, [<Xn|SP>]

and is always the preferred disassembly.

Release (R == 1)

        STSMAXLH <Ws>, [<Xn|SP>]

is equivalent to

        LDSMAXLH <Ws>, WZR, [<Xn|SP>]

and is always the preferred disassembly.

Assembler Symbols

<Ws> Is the 32-bit name of the general-purpose register holding the data value to be operated on with the contents of the memory location, encoded in the "Rs" field.

<Xn|SP> Is the 64-bit name of the general-purpose base register or stack pointer, encoded in the "Rn" field.

Operation

The description of [LDSMAXH, LDSMAXAH, LDSMAXALH, LDSMAXLH](#) gives the operational pseudocode for this instruction.

Operational information

If PSTATE.DIT is 1, the timing of this instruction is insensitive to the value of the data being loaded or stored.

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