CLS

Count Leading Sign bits counts the number of leading bits of the source register that have the same value as the most significant bit of the register, and writes the result to the destination register. This count does not include the most significant bit of the source register.

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	1	0	1	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	Rn	Rd

op

32-bit (sf == 0)

        CLS <Wd>, <Wn>

64-bit (sf == 1)

        CLS <Xd>, <Xn>

```
integer d = UInt(Rd);
integer n = UInt(Rn);
constant integer datasize = 32 << UInt(sf);
```

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.

Operation

```
integer result;
bits(datasize) operand1 = X[n, datasize];

result = CountLeadingSignBits(operand1);

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.

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