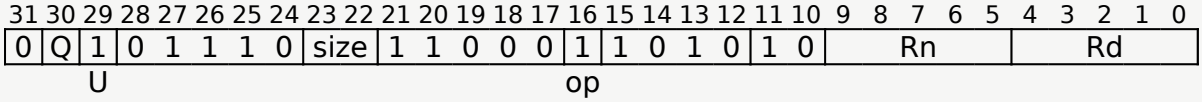
UMINV

Unsigned Minimum across Vector. This instruction compares all the vector elements in the source SIMD&FP register, and writes the smallest of the values as a scalar to the destination SIMD&FP register. All the values in this instruction are unsigned integer values.

Depending on the settings in the *CPACR_EL1*, *CPTR_EL2*, and *CPTR_EL3* registers, and the current Security state and Exception level, an attempt to execute the instruction might be trapped.




```
UMINV <V><d>, <Vn>.<T>
```

```
integer d = UInt(Rd);
integer n = UInt(Rn);

if size:Q == '100' then UNDEFINED;
if size == '11' then UNDEFINED;
constant integer esize = 8 << UInt(size);
constant integer datasize = 64 << UInt(Q);
integer elements = datasize DIV esize;

boolean unsigned = (U == '1');
boolean min = (op == '1');
```

Assembler Symbols

<V>

Is the destination width specifier, encoded in “size”:

size	<V>
00	B
01	H
10	S
11	RESERVED

<d>

Is the number of the SIMD&FP destination register, encoded in the "Rd" field.

<Vn>

Is the name of the SIMD&FP source register, encoded in the "Rn" field.

<T>

Is an arrangement specifier, encoded in “size:Q”:

size	Q	<T>
00	0	8B
00	1	16B
01	0	4H
01	1	8H
10	0	RESERVED
10	1	4S
11	x	RESERVED

Operation

```
CheckFPAdvSIMDEnabled64();
bits(datasize) operand = V[n, datasize];
integer maxmin;
integer element;

maxmin = Int(Elem[operand, 0, esize], unsigned);
for e = 1 to elements-1
    element = Int(Elem[operand, e, esize], unsigned);
    maxmin = if min then Min(maxmin, element) else Max(maxmin, element)

V[d, esize] = maxmin<esize-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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