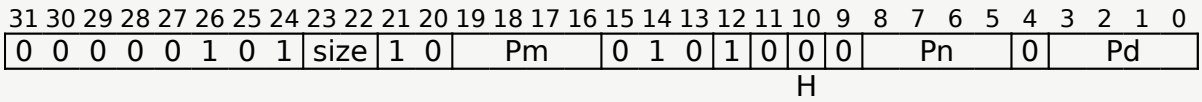
TRN1, TRN2 (predicates)

Interleave even or odd elements from two predicates

Interleave alternating even or odd-numbered elements from the first and second source predicates and place in elements of the destination predicate. This instruction is unpredicated.
It has encodings from 2 classes: Even and Odd

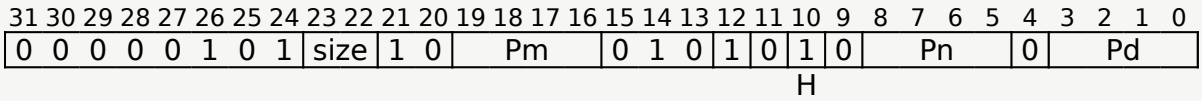
Even



TRN1 <Pd>.<T>, <Pn>.<T>, <Pm>.<T>

```
if !HaveSVE() && !HaveSME() then UNDEFINED;
constant integer esize = 8 << UInt(size);
integer n = UInt(Pn);
integer m = UInt(Pm);
integer d = UInt(Pd);
integer part = 0;
```

Odd



TRN2 <Pd>.<T>, <Pn>.<T>, <Pm>.<T>

```
if !HaveSVE() && !HaveSME() then UNDEFINED;
constant integer esize = 8 << UInt(size);
integer n = UInt(Pn);
integer m = UInt(Pm);
integer d = UInt(Pd);
integer part = 1;
```

Assembler Symbols

<Pd>	Is the name of the destination scalable predicate register, encoded in the "Pd" field.

<T>

Is the size specifier, encoded in “size”:

size	<T>
00	B
01	H
10	S
11	D

<Pn> Is the name of the first source scalable predicate register, encoded in the "Pn" field.

<Pm> Is the name of the second source scalable predicate register, encoded in the "Pm" field.

Operation

```
CheckSVEEnabled();
constant integer VL = CurrentVL;
constant integer PL = VL DIV 8;
constant integer pairs = VL DIV (esize * 2);
bits(PL) operand1 = P[n, PL];
bits(PL) operand2 = P[m, PL];
bits(PL) result;

for p = 0 to pairs-1
    Elem[result, 2*p+0, esize DIV 8] = Elem[operand1, 2*p+part, esize D
    Elem[result, 2*p+1, esize DIV 8] = Elem[operand2, 2*p+part, esize D

P[d, PL] = result;
```

Operational information

If FEAT_SVE2 is implemented or FEAT_SME is implemented, then 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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