INDEX (immediates)

Create index starting from and incremented by immediate

Populates the destination vector by setting the first element to the first signed immediate integer operand and monotonically incrementing the value by the second signed immediate integer operand for each subsequent element. This instruction is unpredicated.

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 0 0 0 0 1 0 0	size	1	imm5b	0 1 0 0 0 0	imm5	Zd

```
        INDEX <Zd>.<T>, #<imm1>, #<imm2>

    if !HaveSVE() && !HaveSME() then UNDEFINED;
    constant integer esize = 8 << UInt(size);
    integer d = UInt(Zd);
    integer imm1 = SInt(imm5);
    integer imm2 = SInt(imm5b);
```

Assembler Symbols

<Zd>   Is the name of the destination scalable vector register, encoded in the "Zd" field.

<T>

Is the size specifier, encoded in "size":

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

<imm1>   Is the first signed immediate operand, in the range -16 to 15, encoded in the "imm5" field.

<imm2>   Is the second signed immediate operand, in the range -16 to 15, encoded in the "imm5b" field.

Operation

```
    CheckSVEEnabled();
    constant integer VL = CurrentVL;
    constant integer PL = VL DIV 8;
    constant integer elements = VL DIV esize;
    bits(VL) result;

    for e = 0 to elements-1
        integer index = imm1 + e * imm2;
        Elem[result, e, esize] = index<esize-1:0>;
```

```
Z[d, VL] = 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.