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BFCVT

Floating-point convert from single-precision to BFloat16 format (scalar) converts the single-precision floating-point value in the 32-bit SIMD&FP source register to BFloat16 format and writes the result in the 16-bit SIMD&FP destination register.

ID AA64ISAR1 EL1.BF16 indicates whether this instruction is supported.

Single-precision to BFloat16 (FEAT BF16)

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

```
BFCVT <Hd>, <Sn>
if !IsFeatureImplemented(FEAT_BF16) then UNDEFINED;
integer n = UInt(Rn);
integer d = UInt(Rd);
```

Assembler Symbols

<Hd> Is the 16-bit name of the SIMD&FP destination register,

encoded in the "Rd" field.

<Sn> Is the 32-bit name of the SIMD&FP source register.

encoded in the "Rn" field.

Operation

```
CheckFPEnabled64();
bits(32) operand = V[n, 32];
FPCRType fpcr = FPCR[];
boolean merge = IsMerging(fpcr);
bits(128) result = if merge then V[d, 128] else Zeros(128);
Elem[result, 0, 16] = FPConvertBF(operand, fpcr);
V[d, 128] = result;
```

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