



Write a self-contained function block in 61131-3 structured text that compares two real inputs up to n digits.



Here's a self-contained function block in IEC 61131-3 Structured Text that compares two real inputs (Real1 and Real2) up to n digits (Precision):

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```
FUNCTION_BLOCK RealCompare
VAR_INPUT
    Real1 : REAL;
    Real2 : REAL;
    Precision : UDINT;
END_VAR

VAR_OUTPUT
    Result : INT; // -1 if Real1 < Real2, 0 if Real1 = Real2, 1 if Real1 > Real2
END_VAR

METHOD Compare : INT;
VAR
    RoundedReal1 : REAL;
    RoundedReal2 : REAL;
    Factor : REAL;
END_VAR

    Factor := REAL(10 ** Precision);
    RoundedReal1 := ROUND(Real1 * Factor);
    RoundedReal2 := ROUND(Real2 * Factor);

    IF RoundedReal1 < RoundedReal2 THEN
        Compare := -1;
    ELSIF RoundedReal1 > RoundedReal2 THEN
        Compare := 1;
    ELSE
        Compare := 0;
    END_IF;
END_METHOD
END_FUNCTION_BLOCK
```

To use this function block, you will need to create an instance of it, set the input values (Real1, Real2, and Precision), and then call the Compare method. The Result variable will hold the comparison result (-1, 0, or 1).