SUBTRACT

This chapter covers the following topics:

- Function

- Syntax 1 - SUBTRACT Statement without GIVING Clause

- Syntax 2 - SUBTRACT Statement with GIVING Clause

- Example

Related Statements: ADD | COMPRESS | COMPUTE | DIVIDE | EXAMINE | MOVE | MOVE ALL | MULTIPLY | RESET | SEPARATE

Belongs to Function Group: *Arithmetic and Data Movement Operations*

Function

The SUBTRACT statement is used to subtract the values of two or more operands.

If a database field is used as the result field, the SUBTRACT operation only results in an update to the internal value that is used within the program. The value for the field in the database remains unchanged.

Syntax 1 - SUBTRACT Statement without GIVING Clause

SUBTRACT [**ROUNDED**] *operand1* **...** **FROM** *operand2*

Operand Definition Table:

Operand	Possible Structure				Possible Formats									Referencing Permitted	Dynamic Definition
operand1	C	S	A	N	N	P	I	F	D	T				yes	no
operand2		S	A	M	N	P	I	F	D	T				yes	no

Syntax Element Description:

Syntax Element	Description
`operand1` `FROM operand2`	**Operands:** `operand1` is the minuend, `operand2` is the subtrahend, hence the statement is equivalent to: `<oper2> := <oper2> - <oper1>` As for the formats of the operands, see also *Rules for Arithmetic Assignments*, *Performance Considerations for Mixed Formats* in the *Programming Guide*.
`ROUNDED`	**ROUNDED Option:** If you specify the keyword ROUNDED, the result will be rounded. For information on rounding, see *Rules for Arithmetic Assignment*, *Field Truncation and Field Rounding* in the *Programming Guide*.

Syntax 2 - SUBTRACT Statement with GIVING Clause

> **SUBTRACT** [**ROUNDED**] *operand1* **...** **FROM** *operand2* **GIVING** *operand3*

Operand Definition Table:

Operand	Possible Structure			Possible Formats												Referencing Permitted	Dynamic Definition
`operand1`	C	S	A	N			N	P	I	F		D	T				yes	no
`operand2`	C	S	A	N			N	P	I	F		D	T				yes	no
`operand3`		S	A	M	A	U	N	P	I	F	B*	D	T				yes	yes

* Format B of `operand3` may be used only with a length of less than or equal to 4.

Syntax Element Description:

Syntax Element	Description
GIVING	**GIVING Clause:** When the GIVING clause is used, *operand2* will *not* be modified, and the result will be stored in *operand3*.
operand1 FROM *operand2* GIVING *operand3*	**Operands:** *operand2* is the minuend, *operand1* is the subtrahend, *operand3* is the result field, hence the statement is equivalent to: *<oper3> := <oper2>- <oper1>* As for the formats of the operands, see also the section *Performance Considerations for Mixed Formats* in the *Programming Guide*.
ROUNDED	**ROUNDED Option:** If you specify the keyword ROUNDED, the result will be rounded. For information on rounding, see *Rules for Arithmetic Assignment*, *Field Truncation and Field Rounding* in the *Programming Guide*.

Example

```
** Example 'SUBEX1': SUBTRACT
************************************************************************
DEFINE DATA LOCAL
1 #A (P2) INIT <50>
1 #B (P2)
1 #C (P1.1) INIT <2.4>
END-DEFINE
*
SUBTRACT 6 FROM #A
WRITE NOTITLE 'SUBTRACT 6 FROM #A               '  10X '=' #A
*
SUBTRACT 6 FROM 11 GIVING #A
WRITE          'SUBTRACT 6 FROM 11 GIVING #A     '  10X '=' #A
*
SUBTRACT 3 4 FROM #A GIVING #B
WRITE          'SUBTRACT 3 4 FROM #A GIVING #B  '  10X '=' #A '=' #B
*
SUBTRACT -3 -4 FROM #A GIVING #B
WRITE          'SUBTRACT -3 -4 FROM #A GIVING #B'  10X '=' #A '=' #B
*
SUBTRACT ROUNDED 2.06 FROM #C
WRITE          'SUBTRACT ROUNDED 2.06 FROM #C   '  10X '=' #C
*
END
```

Output of Program SUBEX1:

```
SUBTRACT 6 FROM #A                      #A:  44
SUBTRACT 6 FROM 11 GIVING #A            #A:   5
SUBTRACT 3 4 FROM #A GIVING #B          #A:   5 #B:  -2
SUBTRACT -3 -4 FROM #A GIVING #B        #A:   5 #B:  12
SUBTRACT ROUNDED 2.06 FROM #C           #C:  0.3
```