

5. Relations

<relation> ::= <ALGOL relation> |
 <character relation> |
 <text value relation> |
 <object relation> |
 <reference relation>

5.1 Character relations

5.1.1 Syntax

<character relation> ::= <simple character expression>
 <relational operator><simple character expression>

5.1.2 Semantics

Character values may be compared for equality and inequality and ranked with respect to the (implementation defined) collating sequence. A relation

$$x \text{ rel } y,$$

where x and y are character values, and rel is any relational operator has the same truth value as the relation

$$\text{rank}(x) \text{ rel } \text{rank}(y).$$

5.2 Text value relations

5.2.1 Syntax

<text value relation> ::= <text value>
 <relational operator><text value>

5.2.2 Semantics

Two text values are equal if they are both empty, or if they are both instances of the same character sequence. Otherwise they are unequal.

A text value T ranks lower than a text value U if and only if they are unequal and one of the following conditions is fulfilled:

- 1) T is empty.
- 2) U is equal to T followed by one or more characters.
- 3) The i'th character of T ranks lower than the i'th character of U, and i ($i \geq 1$) is the smallest integer such that the i'th character of T is unequal to the i'th character of U.

5.3 Object relations

5.3.1 Syntax

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<object relation> ::= <simple object expression>  
                    is <class identifier> |  
                    <simple object expression>  
                    in <class identifier>
```

5.3.2 Semantics

The operators "is" and "in" may be used to test the class membership of an object.

The relation "X is C" has the value true if X refers to an object belonging to the class C, otherwise the value is false.

The relation "X in C" has the value true if X refers to an object belonging to a class C or a class inner to C, otherwise the value is false.

