

# 1 Operators and Literal Types

The following defines the approved behaviour for each combination of operator and literal type. If the literal type is not listed for a certain operator, the operator's behaviour for the literal is undefined. These operators never take operands of different types.

## 1.1 The Operator `=`

### 1.1.1 Integer

If two Integer instances have the same value, `=` returns `true`. If they do not have the same value, it returns `false`.

### 1.1.2 Float

If two Float instances have an absolute difference of less than or equal to an epsilon of  $2^{-24}$ , `=` returns `true`. If the absolute difference is greater than that epsilon, it returns `false`.

### 1.1.3 Boolean

If two Boolean instances have the same keyword, either `true` or `false`, `=` returns `true`. If their keyword differs, it returns `false`.

### 1.1.4 String

If two String instances have the same sequence of characters, `=` returns `true`. If their sequence of characters differs, it returns `false`.

## 1.2 The Operators `!=` and `<>`

### 1.2.1 Integer

If two Integer instances have a different value, `!=` and `<>` return `true`. If they do have the same value, they return `false`.

### 1.2.2 Float

If two Float instances have an absolute difference of greater than an epsilon of  $2^{-24}$ , `!=` returns `true`. If the absolute difference is less than or equal to that epsilon, it returns `false`.

### 1.2.3 Boolean

If two Boolean instances have different keywords, `!=` and `<>` return `true`. If their keywords are the same, they return `false`.

### 1.2.4 String

If two String instances have the different sequences of characters, `!=` and `<>` return **true**. If their sequence of characters is the same, they return **false**.

## 1.3 The Operator `;`

### 1.3.1 Integer and float

If the left operand is less than the right operand, `<` returns **true**. If the right operand is less than or equal to the left operand, it returns **false**.

### 1.3.2 String

If the left operand comes before the right operand in dictionary order, `<` returns **true**. If the left operand comes after the right operand in dictionary order, it returns **false**. If the two operands have the same sequence of characters, it returns **false**.

## 1.4 The Operator `;`

### 1.4.1 Integer and float

If the left operand is greater than the right operand, `>` returns **true**. If the right operand is greater than or equal to the left operand, it returns **false**.

### 1.4.2 String

If the left operand comes after the right operand in dictionary order, `<` returns **true**. If the left operand comes before the right operand in dictionary order, it returns **false**. If the two operands have the same sequence of characters, it returns **false**.

## 1.5 The Operator `;`

### 1.5.1 Integer and float

If the left operand is less than or equal to the right operand, `<=` returns **true**. If the right operand is less than the left operand, it returns **false**.

### 1.5.2 String

If the left operand comes before the right operand in dictionary order, `<` returns **true**. If the left operand comes after the right operand in dictionary order, it returns **false**. If the two operands have the same sequence of characters, it returns **true**.

## 1.6 The Operator `>=`

### 1.6.1 Integer and float

If the left operand is greater than or equal to the right operand, `>` returns **true**. If the right operand is greater than the left operand, it returns **false**.

### 1.6.2 String

If the left operand comes after the right operand in dictionary order, `<` returns **true**. If the left operand comes before the right operand in dictionary order, it returns **false**. If the two operands have the same sequence of characters, it returns **true**.