

# 0405 Paper - relational operators

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## 0.0.1 relational operators

To better understand the conditions in the if-else structures, let's look at **comparison operations**. This will help us to formulate a variety of conditions.

## 0.0.2 Inequality Operators and Bools

```
In [1]: if 6 < 5:
        print("Yes")
```

Why is there no output with print()? Let's look at expressions with inequality signs (<,>) in detail:

```
In [5]: print(6 < 5)
        print(5 < 6)
```

False

True

True and False are other *fixed expressions* in Python. In addition to strings (character strings), integers and floats, they form another data type - the **Bool**.

```
In [7]: b = False
        print(b)
```

False

An if condition is therefore only executed more if a Boolean with the value True follows the if:

```
In [1]: result = 5 < 6
        if result:
            print("5 is lower than 6")
```

5 is lower than 6

```
In [10]: print(5 < 6)
```

True

### 0.0.3 The equality operator

Besides inequalities, we can of course also query equality with `==`

```
In [11]: print(5 == 5)
         print(5 == 4)
```

```
True
False
```

```
In [19]: if 5 == 5:
         print("5 is 5")
```

```
5 is 5
```

Using the equality operator we can also query the *greater equal* (`>=`) and *less equal* (`<=`) states:

```
In [18]: print(5 < 5)
         print(5 <= 5)
         print(5 >= 5)
```

```
False
True
True
```

### 0.0.4 Comparing Strings

We can not only compare numbers, but also strings:

```
In [2]: word = "Hello"
        print(word == "Hello")
        print(word == "World")
```

```
True
False
```

### 0.0.5 The Inequality Operator

We check for inequality with the character `!=`

```
In [16]: word = "Hello"
         print(word != "Hello")
         print(word != "World")
```

```
False
True
```

Numbers can also be compared in terms of inequality:

```
In [3]: zahl = 4  
        print(zahl != 4)  
        print(zahl != 5.5)
```

False

True

#### 0.0.6 Why don't you play around with what you've learned a little bit?

- Formulate your own comparison operations with the operators from this lesson! :-)

```
In [ ]:
```