

DATA TYPES (NUMBERS, STRING, BOOLEAN)

Numbers

A number can be of any value that is positive, negative or in decimals.

1

we have a Number here; it doesn't do anything by itself; use 'post to wall' to display it



2.1

we have a Number here; it doesn't do anything by itself; use 'post to wall' to display it



In the example above, we have a positive number, 1, and a positive decimal number, 2.1

-5

we have a Number here; it doesn't do anything by itself; use 'post to wall' to display it



-3.9

we have a Number here; it doesn't do anything by itself; use 'post to wall' to display it



In the example above, we have a negative number, -5, and a negative decimal number, -3.9

action +(other : Number) **returns** Number

Adds numbers **Example: 3+3 = 9 (This is the return value)**

action /(other : Number) **returns** Number

Divides numbers **Example: 10/5 = 2 (This is the return value)**

action =(other : Number) **returns** Boolean

Compares numbers for equality **Example: 4 = 4 -> True (This is the return boolean)**

action ≥(other : Number) **returns** Boolean

Compares numbers for more or equal **Example : 4 ≥ 5 -> False (This is the return boolean)**

action >(other : Number) **returns** Boolean

Compares numbers for more **Example : 10 > 2 -> True (This is the return boolean)**

In the example above, we can perform different action with numbers such as addition, subtraction, division or comparison.

STRINGS

Strings are pieces of text within the " "

```
var s := "this is a string"
```



```
s := "hello " || "world"      Output : hello world
```



```
var count := s → count      Count will have a value of : 16 (spaces are included!)
```

```
var first char := s → at(0)      first char will have a value of "t"
```



In the example above,

- We have a string text of "this is a string" that is saved in a variable called 's'.
- We can also concatenate (add) two or more strings together using the " || " operator
- We can also count the length of the string using the "count" action. (Note that spaces are included in the count value too!)

BOOLEANS (TRUE OR FALSE)

Booleans are "True" or "False"

```
var t := true
```

```
var f := false
```



In the example above, we declared a variable and assign the boolean value of "True" to 't' and "False" to 'f'

NOT OPERATOR

- not true ==> false
- not false ==> true

We can convert a boolean from "True" to "False" using the "NOT" operator and vice versa!

AND OPERATOR

- true and false ==> false
- false and true ==> false
- false and false ==> false
- true and true ==> true

In the example above, we use the "AND" operator which takes two boolean and return a boolean.

AS A RULE OF THUMB, IF ANY OF THE BOOLEAN HAS A "FALSE", THE RESULT WILL AUTOMATICALLY BE "FALSE", THE RESULT WILL ONLY BE "TRUE" WHEN THE TWO BOOLEANS ARE "TRUE".

OR operator

- true or false ==> true
- false or false ==> false
- true or true ==> true

IN THE EXAMPLE ABOVE, WE USE THE "OR" OPERATOR WHICH TAKES TWO BOOLEAN AND RETURN A BOOLEAN.

AS A RULE OF THUMB, IF ANY OF THE BOOLEAN HAS A "TRUE", THE RESULT WILL AUTOMATICALLY BE "TRUE" AS WELL, THE RESULT WILL ONLY BE "FALSE" WHEN BOTH BOOLEANS ARE "FALSE".

CONCLUSION

1. There are three basic data types, Number, String and Boolean!
2. These three data types are most commonly used in programming!
3. There are lots of different actions that you can apply to each data type! Explore it on your own!

ANSWER

Answer on TouchDevelop : <http://tdev.ly/wcxbe>

action main ()

Answer to Q1

var x := 5

var y := 13

var z := 17

Answer to Q2

var sum := x + y + z

sum → post to wall

Answer to Q3

var string1 := "I am learning the basic of a v..."

string1 → post to wall

Answer to Q4

var string2 := "using TouchDevelop"

Answer to Q5

var sentence := string1 || string2

sentence → post to wall

end action