

Type

Types

Why?

Types

Remember that there 30 students for me.

I will refer to that memory by the label (name)

“nrOfStudents”

Types

Course name is “TIG015”

I will refer to that memory by the label (name)
“courseName”

Types

nrOfStudents has the value 30

courseName has the value "TIG015"

Types

Increase the value in nrOfStudents with 1

Types

nrOfStudents now has the value???

Types

nrOfStudents now has the value 31

Types

Increase the value in `courseName` with 1
... simply doesn't make sense

Types

What?

Types

Just like saying increase your name with 1
.. increase the tree with one

Types

Type is a classification to identify different types of data

With types we can restrict what values are legal to store in variables of certain types

Primitive types

integer, float, boolean,

Integer

-23 -337 0 3 12333

float

-0.004 0.0 2.71828 3.1415

boolean

true false

Reference types

A reference type variable refers to a memory indirectly.

Variable

```
int x = 13;
```

```
String s = "Hi there";
```

Address	Value
1234	13
1242	1256
1256	"Hi there"

The diagram illustrates a reference type variable. It consists of three rows of memory cells. The first row has address 1234 and value 13. The second row has address 1242 and value 1256. The third row has address 1256 and value "Hi there". An arrow points from the value 1256 in the second row to the address 1256 in the third row, indicating that the variable at address 1242 holds a reference to the memory location at address 1256.