

Session 2

DataTypes & Variables

Data types

Name \Rightarrow تونی
↓
کلمہ

الطقتس رائع
↓
جمہ

age \Rightarrow 23 \rightarrow رقم

أنواع البيانات

truthy answer

are you okay? Yes \rightarrow true
false

Data types

```

graph TD
    bool[boolean] --> bool_val[bool]
    bool_val --> true[true]
    bool_val --> false[false]

```

numbers
↓
Short
int
float
double
long

test t
↓
char = 'c'
string = "abc/123"

Handwritten: $\frac{1}{2} \log 10$

2 bytes \Leftarrow short رقم قصير -32, ..., 32

bytes \Leftarrow int

8 bytes \leq 2.29

RAM

min number = $-2^{(\text{bits}-1)}$
max number = $2^{(\text{bits}-1)} - 1$
binary

float, double
yes / decimal \Rightarrow values

Static

datatype

name = Value;

string name

Name ← name | CLO

age → age | CLO

$\frac{1}{2}$

$\frac{5}{3}$, $\frac{2}{3}$ → remainder

$$\frac{2}{4} = 0.5$$

Casting??

$int \Rightarrow float$

civil \leftarrow implicit \rightarrow aut.

exp \leftarrow explicit \rightarrow manu.

Conditions