

QND Computer Science Day 4

Mark Schmidt

Recap

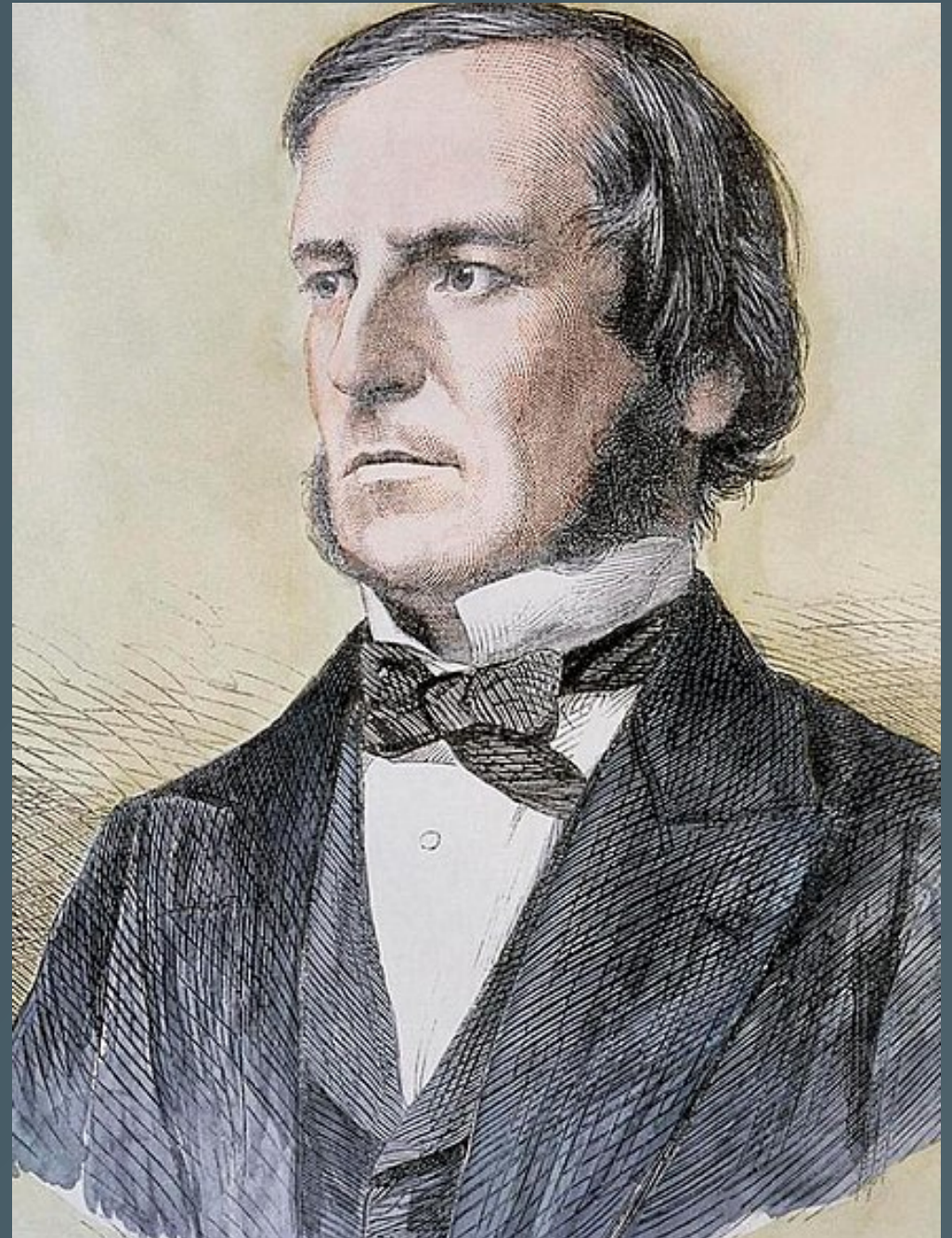
- Integers and Floats
- Strings

How to represent truth?

- Is a user old enough to drive?
- Did my favorite team win last night?
- Is dark mode enabled?

Booleans

- George Boole
 - In 1854 wrote *The Laws of Thought*
 - New algebra
- Booleans can either be `True` or `False`



Example

```
let isOldEnoughToDrive = true  
let myTeamWon = false  
let darkModeEnabled = true  
...
```

Me: I'm afraid of booleans. My friend said that you can help.

Therapist: That's true.

Me:



Conditions



```
print("How old are you?")
let ageString = readLine()!
let age = Int(ageString)!

let greater = age > 16

print("You are old enough to drive: " + String(greater))
```

Equality

```
let secret_password = "my awesome password"
print("Enter your password:")
let password = readLine()!

let correct = password == secret_password

print("Correct password? " + String(correct))
```

if else

- Booleans let us control what happens in our code

```
let secret_password = "my awesome password"
print("Enter your password:")
let password = readLine()!

if password == secret_password {
    print("Correct password!")
} else {
    print("Incorrect password!")
}
```


else if

- Check multiple conditions in a row

```
let secret_password = "my awesome password"
let ultra_secret_password = "my other awesome password"
print("Enter your password:")
let password = readLine()!

if password == secret_password {
    print("Correct password!")
} else if password == my_ultra_secret_password {
    print("Ah, you guessed my super secret password!")
} else {
    print("Incorrect password!")
}
```

Project

Extend our calculator from yesterday

Ask the user to choose an operation using `input`

Add, subtract, multiply, divide

Use `if, else if, else` to perform that operation

Bonus

- Add Exponents (**)
- What happens if you divide by 0?
 - Can we protect against dividing by zero?