## COMP6991 23T3

Ownership & Borrowing

### **Owned vs Copy**

...somewhat recapped

- > What does it mean to be an
  "owned" type
- > What types are Copy?
- > Can I make a new Copy type?

# Cascading ownership If X owns Y and Y owns Z...

> Example: Student name

## Ownership sucks!

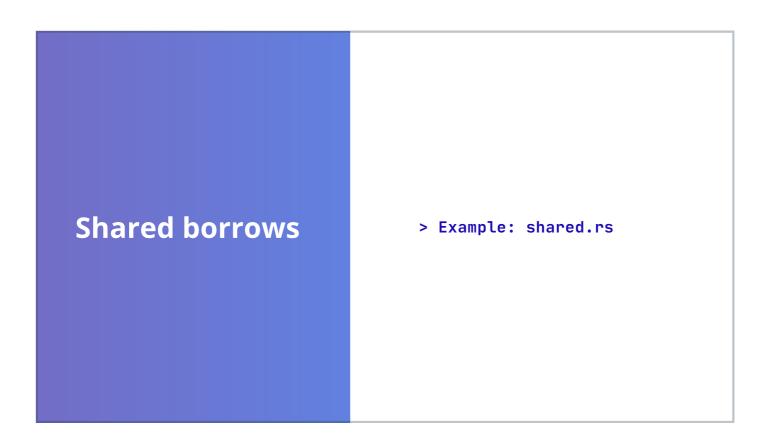
(for legal reasons this is a joke)

> Example: pain.rs

## The perils of shared mutability

(we're going to spend a lot of time here)

Otherwise known as:
"Shared mutable state gonna
hurt you!" ~jashankj



## **Shared borrows**

#### Superpowers:

- > Can be shared infinitely many times
- > Very cheap to pass to fns

#### Limitations:

- > Cannot mutate data: read-only.
- > Cannot take any exclusive borrows during
  its lifetime



### **Exclusive borrows**

#### Superpowers:

- > Can mutate data without taking ownership
- > Very cheap to pass to fns

#### Limitations:

- > Cannot take any further exclusive borrows during its lifetime
- > Cannot take any shared borrows during
  its lifetime

