COMP6991 24T1

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)

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> Example: pain.rs
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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

> Example: shared.rs

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

> Example: exclusive.rs

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

Dangling references

> Example: dangling.rs