What is Rust?

and why should you use it?

Elevator Pitch

- Blazingly fast
- Prevents segfaults
- Guarantees thread safety
- Functional aspects
- No language runtime
- No garbage collector

Mandatory Hello World!

```
fn main() {
    println!("Hello TD Talks!");
}
```

Functional Aspects

```
enum Maybe {
    Thing(u64),
    Nothing,
}

fn square(num: Maybe) -> Maybe {
    match num {
        Maybe::Thing(num) => Maybe::Thing(num * num),
        Maybe::Nothing => Maybe::Nothing,
    }
}

fn main() {
    // Import the variants of Maybe into scope
    use Maybe::{Thing, Nothing};

    // Type inference decides these are Maybe
    let num = Thing(1337);

    // Match is like a switch-case, but on steroids
    match square(num) {
        Thing(num_sq) => println!("We have: {}", num_sq),
        Nothing => println!("We have no value"),
    }
}
```

Tooling

- Cargo
- Crates.io
- Rust Language Server
- Clippy

Where is Rust used?

- Components of the Dropbox core file-storage system
- Realtime A/B-testing system used by Yelp
- New firefox CSS engine
- Cloudflare's Serverless Platform for WASM

Trying it out

- Rust Playground
- Rustup

Rust enables you to write fast code
that works

Questions?