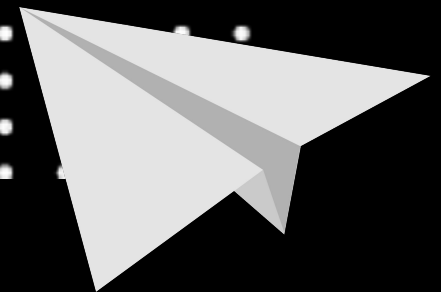
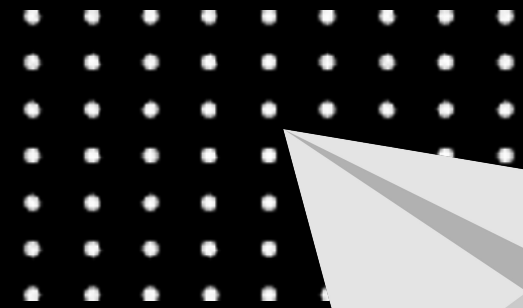






Rust Programming Language



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- ✓ Introduction
 - ✓ Developer Survey
 - ✓ About Rust
 - ✓ Features
 - ✓ Cargo
 - ✓ Yew Framework
 - ✓ Syntax Examples
 - ✓ Summary
- 

Rust Overview

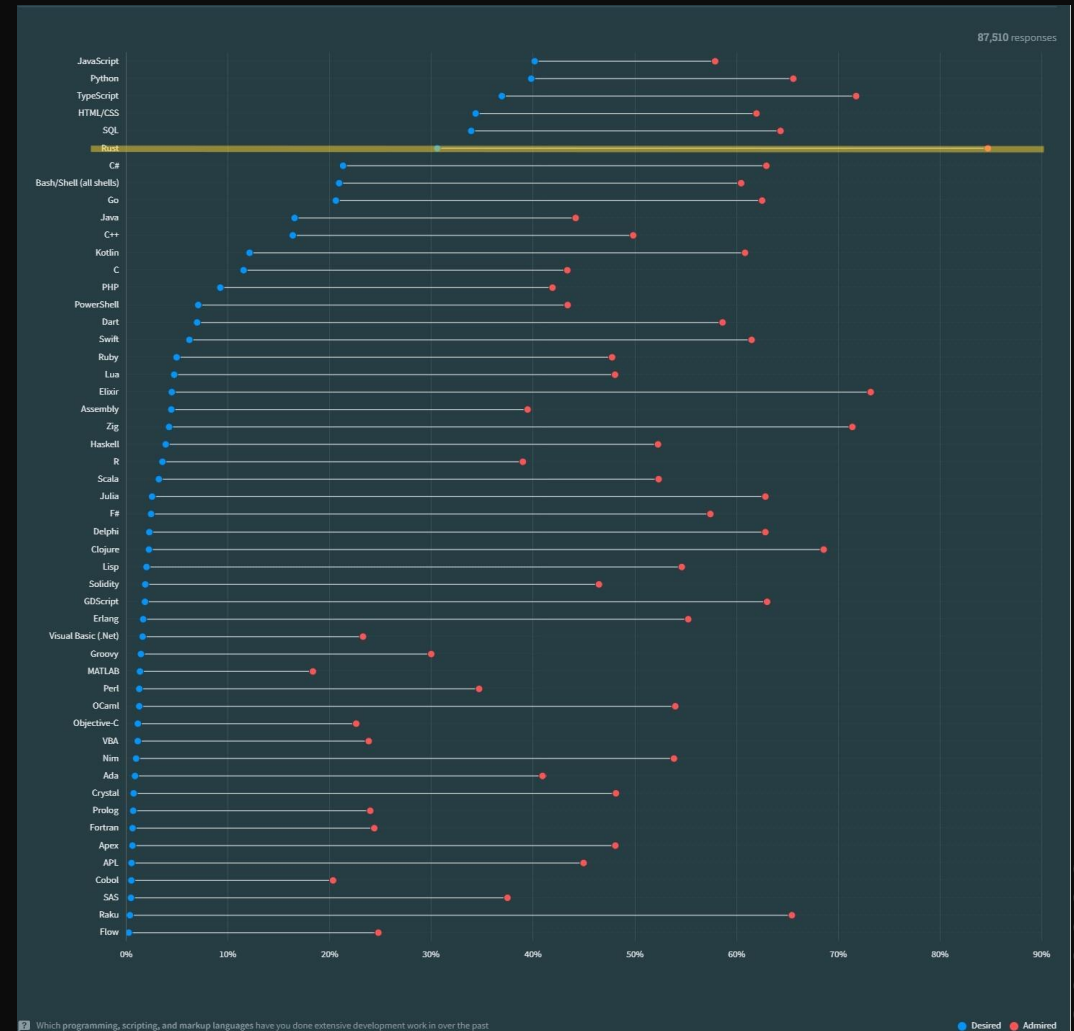
StackOverflow Developer Survey



Programming, scripting, and markup languages

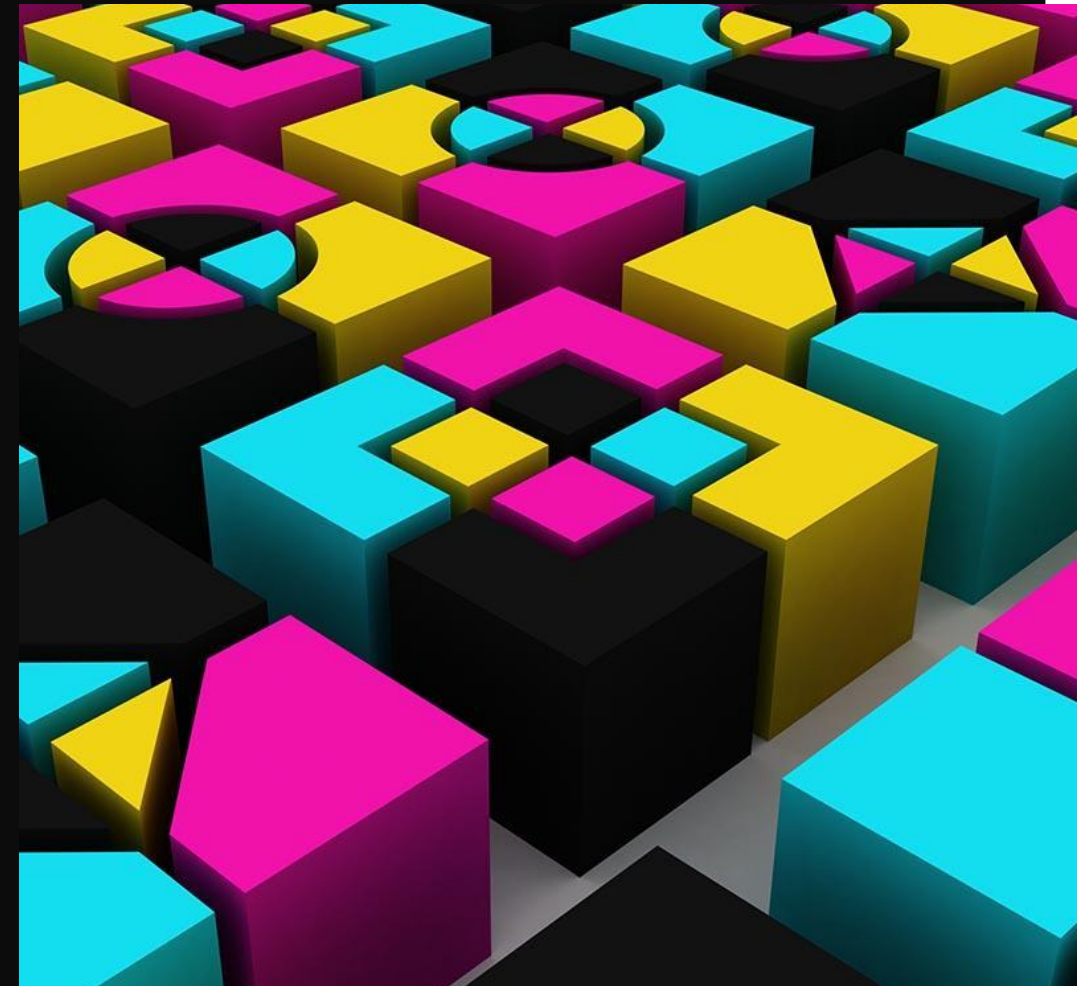
Rust is the most admired language, more than 80% of developers that use it want to use it again next year. Compare this to the least admired language: MATLAB. Less than 20% of developers who used this language want to use it again next year.

* From StackOverflow 2023 Developer Survey



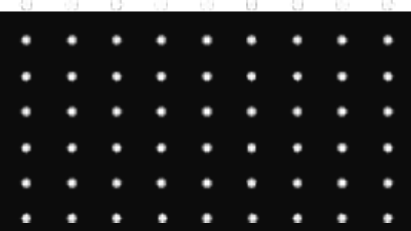
About Rust

- Grew out of a personal project by a Mozilla Research Employee - Graydon Hoare in 2006
- Mozilla began sponsoring the project in 2009
 - Experimental browser project "Servo"
- Static and Strongly Typed
- Runs as a binary executable file
 - Rust does not need to be installed locally
 - Unlike JavaScript
- Fast and reliable
 - Not extremely difficult to write in
 - Syntax is similar to C and C++
- Described by Hoare to be targeted at "frustrated C++ developers"

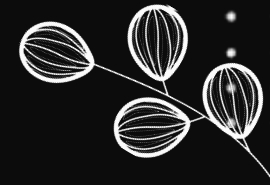


Features

- Some things that can be created with rust
 - Command Line Tools
 - rustc
 - Web Services
 - Partially used in FireFox browser
 - DevOps Tools
 - Embedded Devices / Systems
 - Cryptocurrency
 - Search Engines
 - Machine Learning

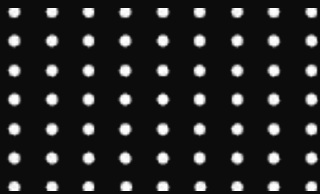


Syntax



```
Extension: CodeLLDB  main.rs x
main.rs > main
1 fn main() {
2     println!("hello world");
3 }
```

Main function -
“Hello world” println!



```
(1..=100).filter(|&x| x % 3 == 0).sum()
```

Adds all numbers between 1:100 that are multiples of 3

```
for x in 0..100 {
    f(x);
}
```

For Loop 1-100

Cargo

- Rust's build system and package manager
 - Builds code
 - Downloads library dependencies
 - Builds using those libraries
- Cargo uses TOML file format
 - Tom's Obvious, Minimal Language
 - Cargo's configuration format

Yew Framework

- Yew is a framework that allows users to build rust web applications
- JSX-like syntax to structure content
- Similar to react (See photo below)
- Supports JavaScript interoperability, allowing developers to leverage NPM packages and integrate with existing JavaScript applications.

Features

Component Based

Features a component-based framework which makes it easy to create interactive UIs. Developers who have experience with frameworks like **React and Elm** should feel quite at home when using Yew.

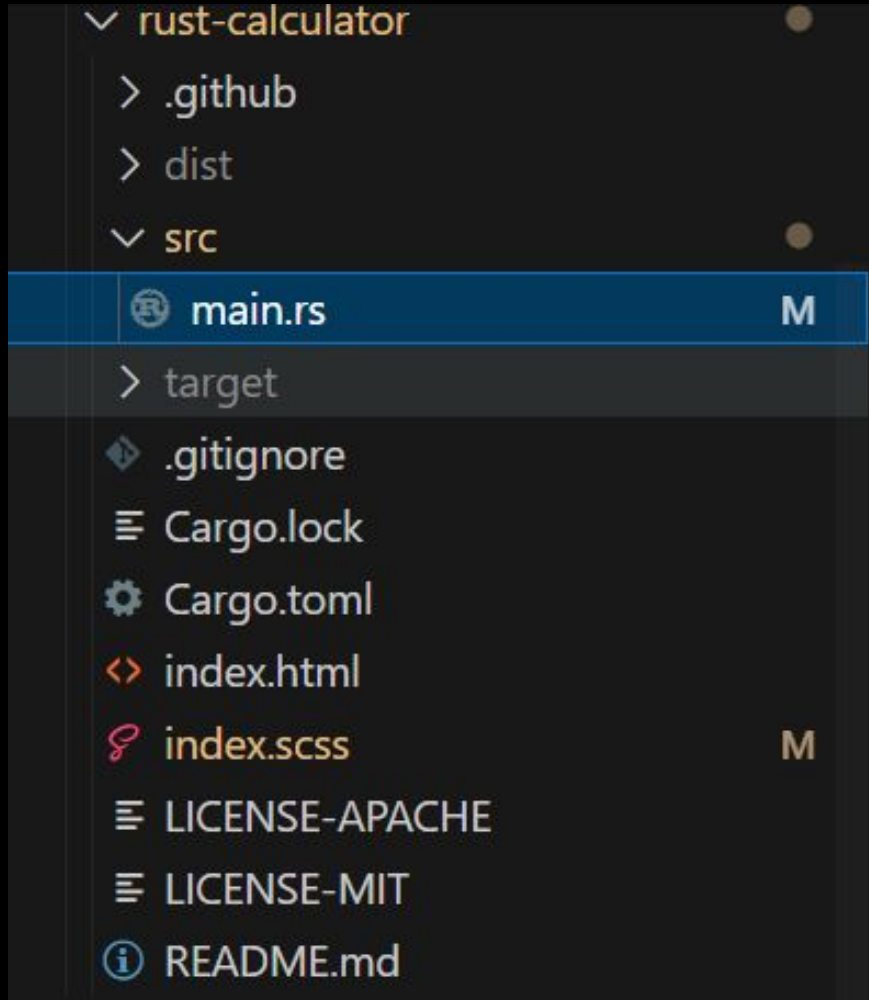
[Learn more](#)

HTML macro

Features a macro for declaring interactive HTML with Rust expressions. Developers who have experience using **JSX in React** should feel quite at home when using Yew.

[Learn more](#)

Example Yew Project



← Source Code

← Dependencies

← Styling Sheet

CSS with Rust

```
use yew::{classes, html};

html! {
    <div class={classes!("container")}></div>
};
```



CSS using classes from html

```
use yew::{classes, html};

html! {
    <div style="color: red;"></div>
};
```

Inline CSS

References

- Yew Framework - API Documentation
 - <https://docs.rs/yew/latest/yew/>
- 2023 Stack Overflow Developer Survey
 - <https://survey.stackoverflow.co/2023/>
- Rust Programming Language Book
 - <https://doc.rust-lang.org/book/title-page.html>
- Rust Wikipedia
 - [https://en.wikipedia.org/wiki/Rust_\(programming_language\)](https://en.wikipedia.org/wiki/Rust_(programming_language))
- Yew Documentation
 - <https://yew.rs/docs/>