"RUST"

Modern System Programming Language

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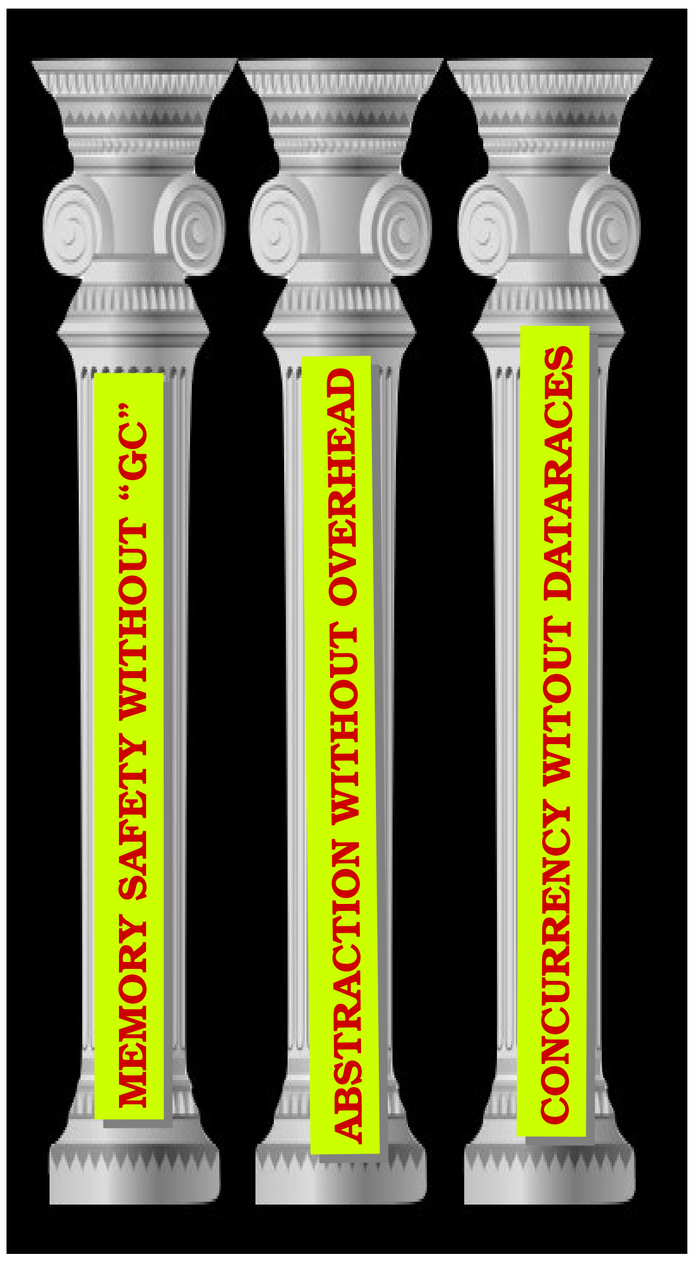
INTRODUCTION:

- Rust is a systems programming language focused on three goals: safety, speed, and concurrency.
- It maintains these goals without having a garbage collector, abstraction without overhead, and concurrency without data-races

Rust is the first systems programming language

Rust takes the same "resource management isn't just about memory" attitude of C++ and D, and rewrites the representation of ownership to accommodate that.



Syntax & Semantics of RUST:

- The syntax of Rust is similar to C and C++, with blocks of code delimited by curly brackets, and control flow keywords such as if, else, while, and for.
- Not all C or C++ keywords are present, however, while some Rust keywords (such as match for multi-directional branching, similar to switch in other languages) will be less familiar to programmers coming from these languages.
- Despite the syntactic resemblance, Rust is semantically very different from C and C++.

SOLVED BUGS:

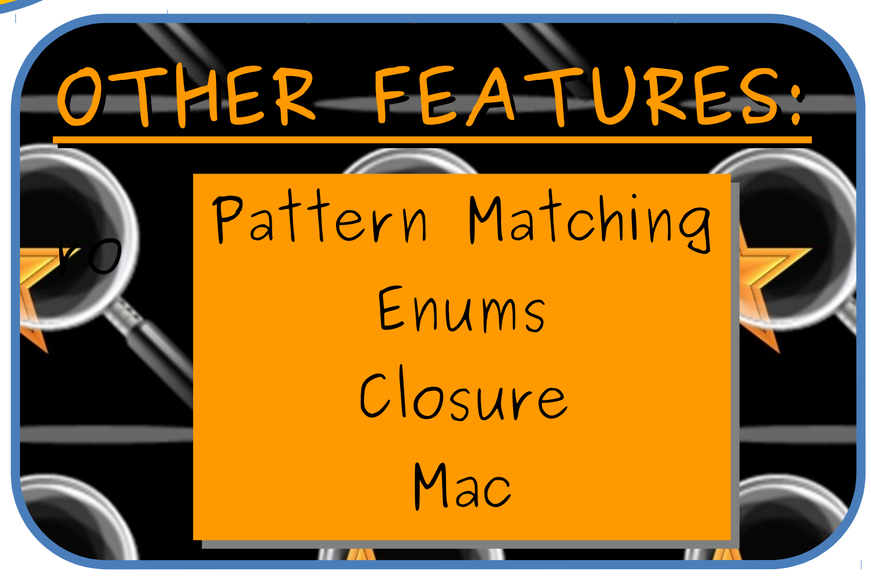
- Dangling Pointers
- Segmentation faults
- Double frees
- Uninitialized Data

UNSOLVED BUGS:

- Null pointer Exception
- Resource leaks
- Data races

"hello world" Program in RUST:

```
fn main()
{
    Println!("Hello World");
}
```



REFERENCES: https://www.rust-lang.org/ https://en.wikipedia.org/wiki/Rust_(programming_language)

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