STUDY NOTES · BASIC CONCEPT

What is RUST of Microsoft?

Indian Economy

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What is Rust?

Rust is a modern, high-performance programming language designed to prevent common software bugs such as memory leaks, buffer overflows, and security vulnerabilities.

Rust (in the context of Microsoft) refers to the Rust programming language, which Microsoft is increasingly using to build safer and more secure software.

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Why Microsoft Uses Rust?

Microsoft uses Rust because:

- It prevents memory-related security flaws (which cause most software attacks)
- It offers performance similar to C and C++
- It improves system stability and security
- It reduces the need for manual memory management
- Where Microsoft Uses Rust

Microsoft is gradually using Rust in:

- Windows components
- Azure cloud infrastructure
- Security-critical tools
- Experimental system-level projects
- Rust is not replacing C or C++ entirely, but is being used alongside them for safer development.

Why It Matters?

Over 70% of serious software vulnerabilities come from memory safety issues. Microsoft sees Rust as a way to reduce cyber risks and improve software reliability.