

Welcome to C

(The simplest fastest and most
awesome-est language!
Seriously!)

Discussion

- What is programming?
- What is a programming language?
- Why do you need it?
- What do you remember about C?

What is C

- General purpose programming language
- Language for fast small programs
- Low level machine access and efficient execution
- Like many imperative languages provides
 - Structured programming
 - Lexical scoping
 - Recursion
 - Static typing
 - modularization

Building on C

- C is most widely used languages
- Many languages are based on it at least syntactically
 - C#, csh, D, Go, Rust, JavaScript, LPC, Perl, PHP, Python
 - Objective C is a super set of C
 - C++ is nearly a super set of C

What is C++

- General purpose programming language
 - Originally developed in early 1980's by Bjarne Stroustrup
- Based on C, evolved greatly
 - Added: classes, virtual functions, operator overloading, multiple inheritance, templates, resource management and exception handling
 - And later generic programming through templates, static polymorphism and policy driven programming
 - C++11 supports lambdas, variadic templates and an even richer standard library
- Largely compatible with C

A brief history

- Devised at Bell labs by Dennis Ritchie in 1973
- Derived from B where B itself is based on BPCl
- Low level language
- Allows efficient mapping to machine code
- Replaces assembly code
- Most widely used programming languages

Advantages

- Base language for many others
- Modularity
- General purpose programming language
- Speed

Disadvantages

- Lack of object oriented features
- No strict type checking
- No runtime checking or exception handling

Applications

- Device drivers made in C
- Gaming
- Devices
- Text editors
- Language compilers

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