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Compiler

a computer program that translates computer code written in one programming language

*Snippet from Wikipedia: **Compiler***

> In computing, a **compiler** is a computer program that translates computer code written in one programming language (the *source* language) into another language (the *target* language). The name "compiler" is primarily used for programs that translate source code from a high-level programming language to a low-level programming language (e.g. assembly language, object code, or machine code) to create an executable program.[:p1]
>
> There are many different types of compilers which produce output in different useful forms. A *cross-compiler* produces code for a different CPU or operating system than the one on which the cross-compiler itself runs. A *bootstrap compiler* is often a temporary compiler, used for compiling a more permanent or better optimised compiler for a language.
>
> Related software include *decompilers*, programs that translate from low-level languages to higher level ones; programs that translate between high-level languages, usually called *source-to-source compilers* or *transpilers*; language *rewriters*, usually programs that translate the form of expressions without a change of language; and *compiler-compilers*, compilers that produce compilers (or parts of them), often in a generic and reusable way so as to be able to produce many differing compilers.
>
> A compiler is likely to perform some or all of the following operations, often called phases: preprocessing, lexical analysis, parsing, semantic analysis (syntax-directed translation), conversion of input programs to an intermediate representation, code optimization and machine specific code generation. Compilers generally implement these phases as modular components, promoting efficient design and correctness of transformations of source input to target output. Program faults caused by incorrect compiler behavior can be very difficult to track down and work around; therefore, compiler implementers invest significant effort to ensure compiler correctness.
>
> Compilers are not the only language processor used to transform source programs. An interpreter is computer software that transforms and then executes the indicated operations.[:p2] The translation process influences the design of computer languages, which leads to a preference of compilation or interpretation. In theory, a programming language can have both a compiler and an interpreter. In practice, programming languages tend to be associated with just one (a compiler or an interpreter).

GitHub Topics

- https://github.com/topics/compiler

Compilers are software that translate higher-level (more human readable) programming languages to lower-level languages (e.g. machine code). The processor executes machine

> code, which indicates when binary high and low signals are required in the arithmetic logic unit of the processor. Examples of compiled languages include BASIC, Fortran, C++, C, and Java.

kb, programming