GCC Cheatsheet

Overview

GCC (GNU Compiler Collection) is a collection of programming language compilers, including C, C++, Objective-C, Fortran, Ada, and others.

Installation

- macOS: `xcode-select --install`
- Ubuntu/Debian: `sudo apt-get install build-essential`
- Windows: [MinGW-w64](#) or [Cygwin](#)

Basic Usage

```
gcc file.c -o file
```

Compiles `file.c` and creates an executable named `file`.

Flags

- `-c` : Compiles source files to object files without linking.
- `-o` : Specifies the name of the output file.
- `-Wall` : Enables all warning messages.
- `-Werror` : Treats all warnings as errors.
- `-g` : Adds debugging information to the executable.
- `-O` : Enables optimization of the code.
- `-std` : Specifies the language standard to use.
- `-I` : Adds a directory to the include path.
- `-L` : Adds a directory to the library path.
- `-l` : Links against a library.

Examples

```
gcc -c file.c -o file.o          # Compile source file to object file
gcc file.o -o file         # Link object file to create executable
gcc -Wall -Werror -g file.c -o file     # Compile with warnings and debugging
information
gcc -O2 file.c -o file        # Compile with optimization
gcc -std=c99 file.c -o file         # Compile with C99 standard
gcc -I include/ file.c -o file       # Add include directory to include path
gcc -L lib/ -l mylib file.c -o file      # Link against library "mylib"
```

Resources

- [GCC website](#)
- [GCC documentation](#)

- [GCC Wiki](#)