

# OpenMP Installation Guide for Linux

## 1. Check Compiler Availability

```
gcc (or) g++ --version      #For C/C++ CODE
gfortran --version          #For FORTRAN CODE
```

GCC version 4.2 or later supports OpenMP.

## 2. Install Required Packages

If compiler is available skip this step

**Ubuntu / Debian**

```
sudo apt update
sudo apt install build-essential
```

## 3. Compile the Program

```
gcc (or) g++ -fopenmp program.c -o hello      #For C/C++ CODE
gfortran -fopenmp program.f90 -o hello        #For FORTRAN CODE
```

## 4. Run

```
./hello
```

# OpenMP Installation Guide for Mac

## 1. Install Homebrew

If Homebrew is not installed:

```
/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

Verify:

```
brew --version
```

## 2. Install GCC Compiler for OpenMP

```
brew install gcc
```

## 3. Set Environment Variables

Add the following to ~/.zshrc or ~/.bashrc:

```
export PATH="/opt/homebrew/bin:$PATH"
```

Then reload:

```
source ~/.zshrc
```

## 4. Compile the Program

```
gcc-15 (or) g++-15 -fopenmp program.c -o hello      #For C/C++ CODE  
gfortran -fopenmp program.F90 -o hello             #For FORTRAN CODE
```

## 5. Run the Program

```
./hello
```

## References

- <https://www.openmp.org>
- <https://brew.sh>
- LLVM OpenMP documentation
- GCC and OpenMP documentation