

Discussion 12: SIMD and OMP

QIYUAN DAI



Definition

In computer software, in compiler theory, an intrinsic function (or **builtin** function) is a function (subroutine) available for use in a given programming language whose implementation is handled specially by the compiler.

How To Use

SSE/SSE2 are enabled by default on x86-64 machines.

-msse4.1 -mavx2 etc.

-march=native

<https://gcc.gnu.org/onlinedocs/gcc/x86-Options.html>

Optimization level and Vectorization

Automatic vectorization at O3 level

OpenMP

```
#pragma omp for schedule(kind[, chunk])  
...
```

The kind can be one of the following:

- static
- dynamic
- guided
- auto
- runtime