CUB

API Reference

v11.2 | February 2021

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CUB Overview

CUB provides state-of-the-art, reusable software components for every layer of the CUDA programming model:

- **Parallel primitives**
  - **Warp-wide "collective" primitives**
    - Cooperative warp-wide prefix scan, reduction, etc.
    - Safely specialized for each underlying CUDA architecture
  - **Block-wide "collective" primitives**
    - Cooperative I/O, sort, scan, reduction, histogram, etc.
    - Compatible with arbitrary thread block sizes and types
  - **Device-wide primitives**
    - Parallel sort, prefix scan, reduction, histogram, etc.
    - Compatible with CUDA dynamic parallelism
- **Utilities**
  - **Fancy iterators**
  - **Thread and thread block I/O**
  - **PTX intrinsics**
  - **Device, kernel, and storage management**

The full CUB documentation is available on GitHub. See CUB.

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