

The files in this directory are compiled multiple times for different CPU vector instruction sets (e.g. AVX, AVX2). The purpose of putting code in this directory is to make sure we can generate the optimal code for a given processor's vector capabilities. Much of this is done via preprocessor guards in `vec256_qint.h`.

The considerations for code written in this directory include:

- Keep code in this directory to a minimum, since we're compiling it several times.
- All code in this file should go through the `DECLARE_DISPATCH`, `DEFINE_DISPATCH`, and `REGISTER_DISPATCH` mechanism to ensure the correct runtime dispatch occurs.
- THE CODE MUST RESIDE IN THE ANONYMOUS NAMESPACE. FAILURE TO ENSURE THIS IS THE CASE CAN LEAD TO HARD-TO-DEBUG ODR VIOLATIONS.
- **Make sure different variants of the code (AVX, AVX2) are tested!** There are build variants that do things like have NO AVX and NO AVX2 in CI. Make sure they work!