

Differences:

Seeing the two side by side, I quickly noticed that the optimized version is about 1/4 smaller, with around 1,500 lines compared to the unoptimized version's 2,000 lines. Additionally, the optimized code is more efficient, featuring fewer instructions and better memory usage. The compiler achieves this by removing unnecessary operations, inlining functions, and making better use of CPU registers. While these optimizations make the code faster and more efficient, they can also make it less straightforward than the unoptimized version.