Progress Report

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1 First results for 3D Navier-Stokes Solver

A three-dimensional finite volume Navier-Stokes solver was coded in C++. The results for QUICK scheme using a course 11×11×11 grid size are shown in the figures below.

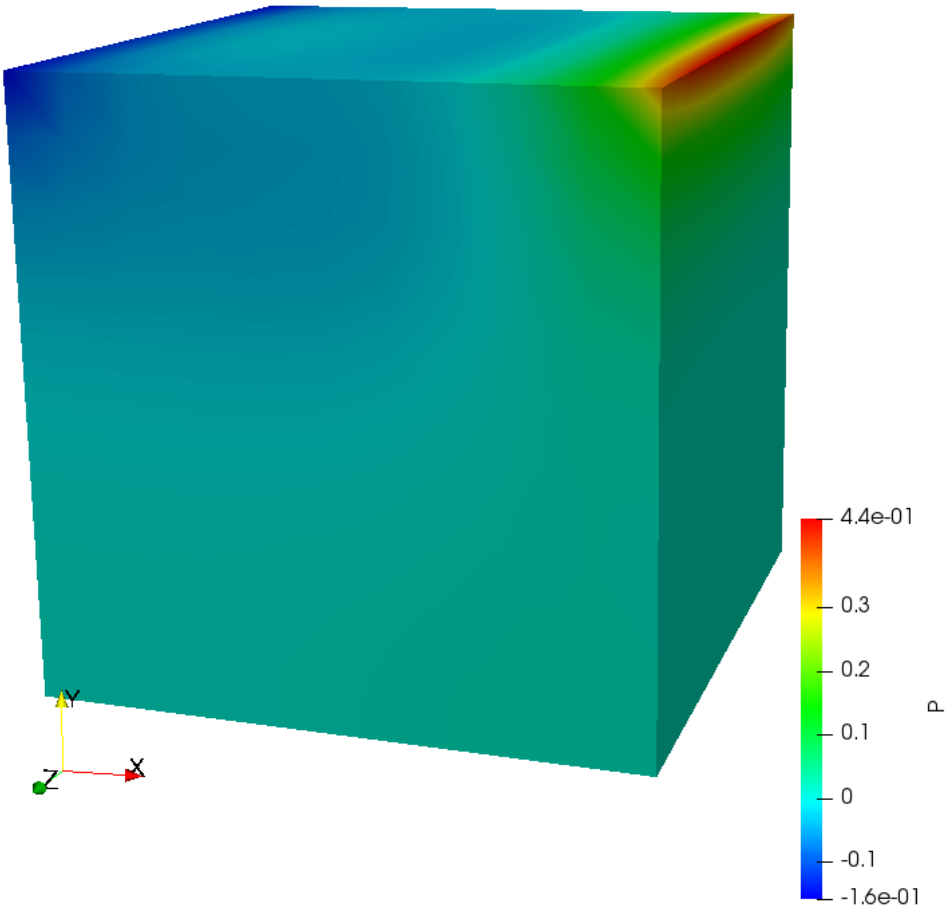

Figure 1: Pressure contours for three-dimensional cavity flow

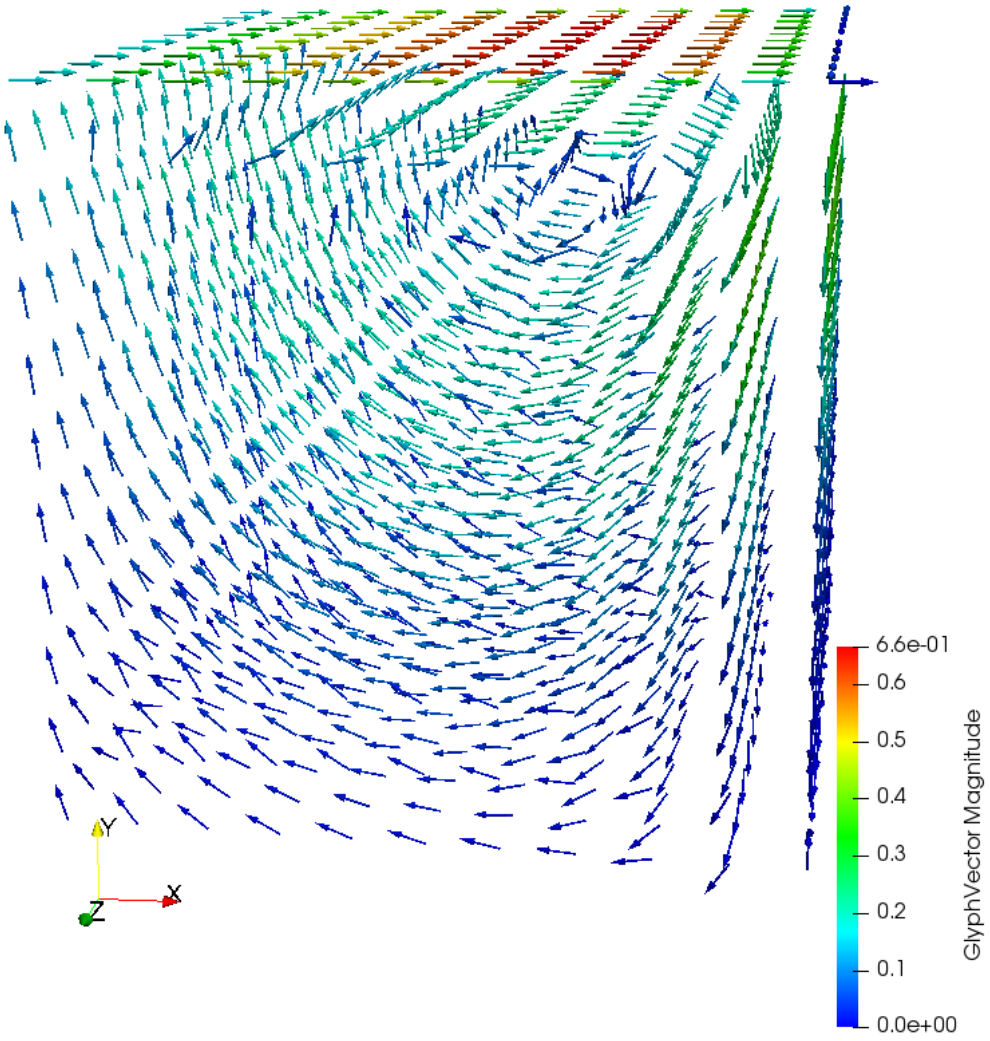

Figure 2: Velocity vectors for three-dimensional cavity flow

1.1 Future tasks

1. Converting the code for use with parallel computing using OpenMP
2. Obtain and analyze the results for larger grid sizes
3. Validate the 3D code using results from published literature