Assignment 4: Modification of the Python wrapper setup

Description of the test case:

In this test case, a spatially varying wall temperature for a steady-state compressible turbulent flat plate has been created using a Python wrapper. The temperature of the wall changes based on its x-coordinate, ranging from 0 to 2. This results in the wall temperature varying from 560K to 300K. The equation used is:

```
WallTemp = 560.0 - 260.0 * sin(x * pi / 4)
```

The configuration file have settings and parameters for a computational fluid dynamics (CFD) simulation. It is designed for a RANS solver utilizing the SST (Shear Stress Transport) turbulence model and solving a direct mathematical problem. Restarting the solution is disabled in this configuration.

Boundary conditions are set for different markers including wall, inlet, outlet, symmetry, and markers for plotting and monitoring surfaces.

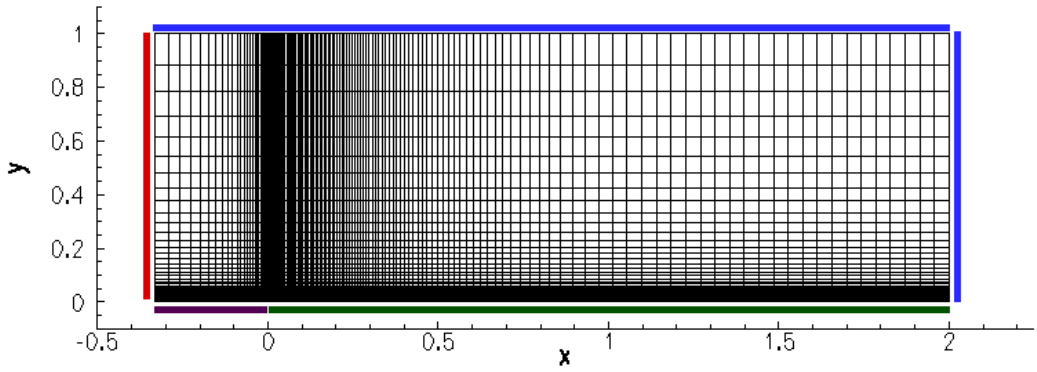
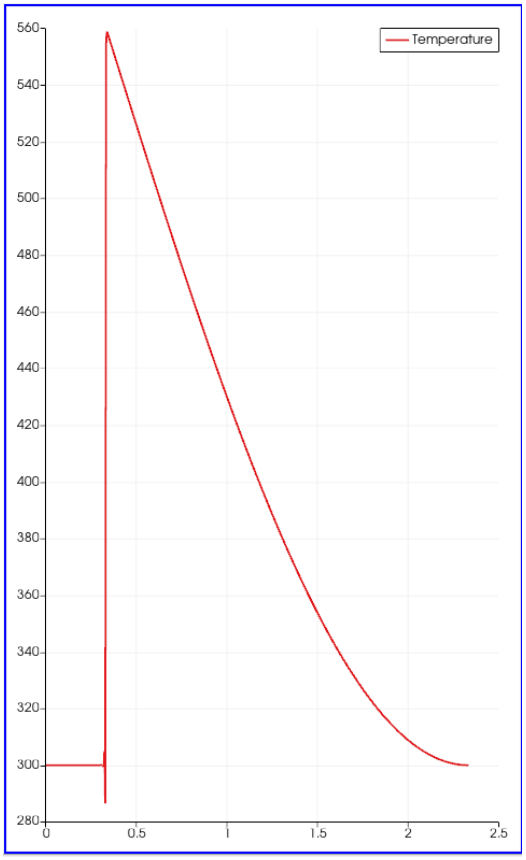


Figure (1): Mesh with boundary conditions: inlet (red), outlet (blue), symmetry (purple), wall (green).
Image source: SU2 Documentation su2code.github.io/tutorials/Turbulent_Flat_Plate



This graph illustrates the temperature variation over x-axis. The x co-ordinates range is from 0 to 2.5 where 0.5 to 2.5 is wall marker, causing the wall temperature to change from 560K to 300K.

Output Figures

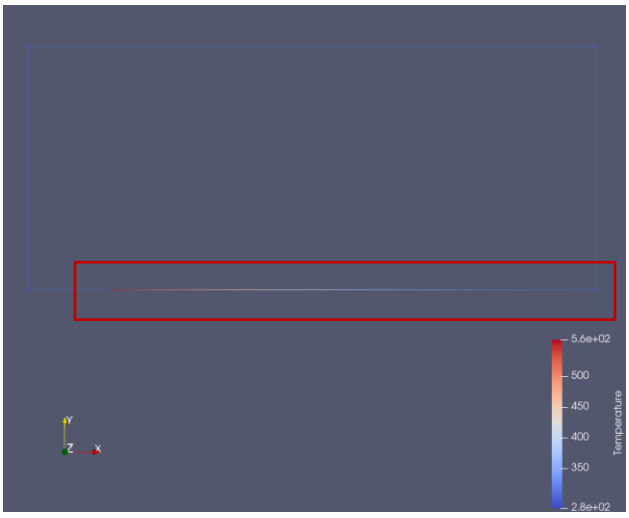


Fig 1: Showing the Spatially varying temperature of wall

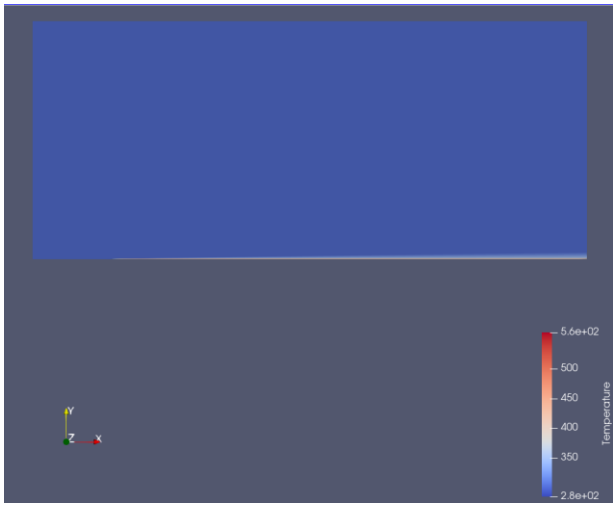


Fig 2: Showing temperature variation in the Surface view of flatplate