

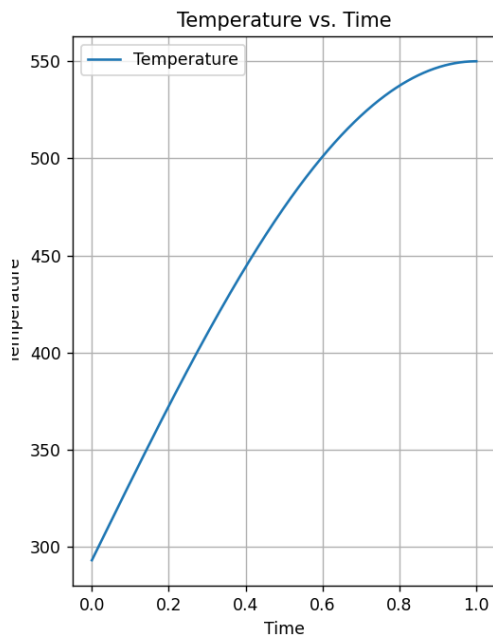
Assignment 3 : Python Wrapper Test Case

Description of the test case:

In this, Conjugate Heat Transfer of an unsteady flat plate is achieved using a Python wrapper. This wrapper alters the temperature of the flat plate over time according to the given equation:

$$\text{WallTemp} = 293.0 + 257.0 * \sin(\pi * 0.5 * \text{time})$$

The configuration file have various parameters and settings for a computational fluid dynamics (CFD) simulation. The simulation is configured for a RANS (Reynolds-Averaged Navier-Stokes) solver with the SST (Shear Stress Transport) turbulence model. The simulation is set up for a direct mathematical problem without axisymmetric conditions, with no restart option enabled, and retaining input files.

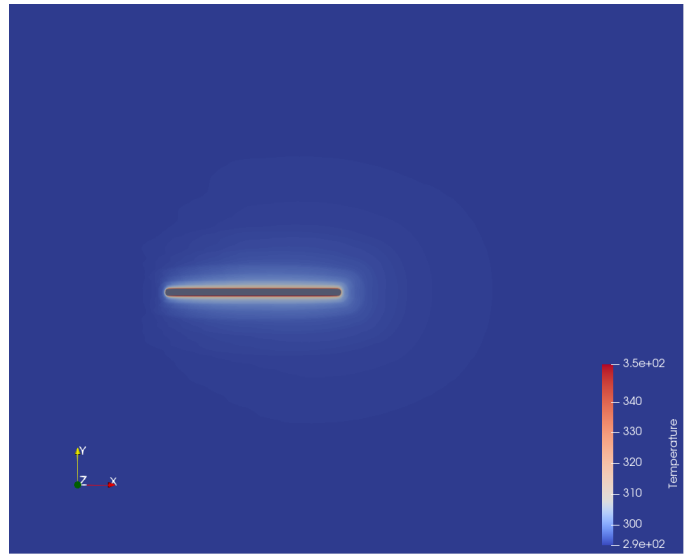


This graph illustrates the temperature variation over time. The time range is from 0 to 1, causing the wall temperature to transition from 293K to 560K

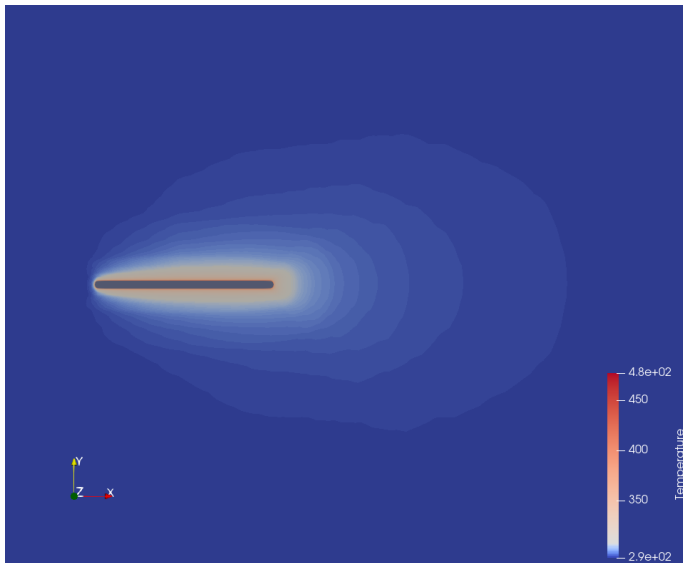
Output figures of temperature varying with time



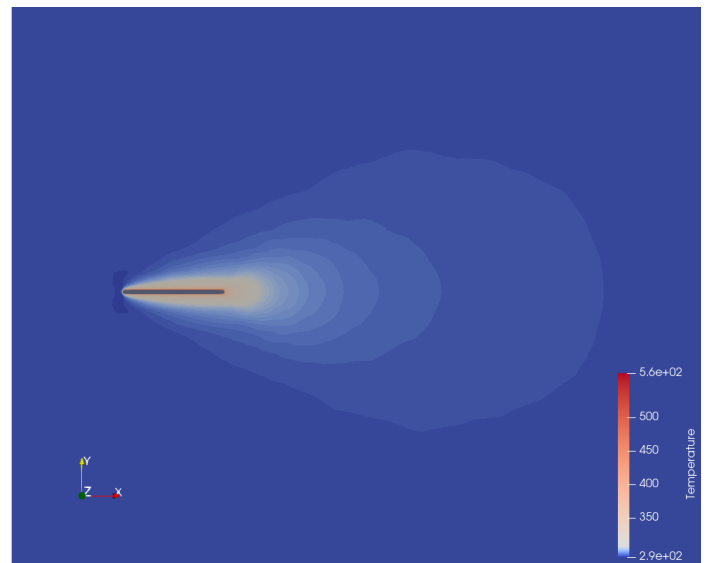
The temperature value at time 0.11111



The temperature value at time 0.33333



The temperature value at time 0.66666



The temperature value at time 0.99999