MODULE 1

EXERCISE 2

Consider the two-dimensional potential flow around a cylinder. The following is requested:

1. Parameterize the geometry of the cylinder, and obtain the nodal and control points, the normal and tangent vectors at each control point, and the length of the panels.

2. Using the constant strength vortex method, obtain the distributions of velocity (expressed as a fraction of the free stream velocity Q_∞) and pressure coefficient over the surface of the cylinder, as well as the lift coefficient for angles of attack 0°, 2°, 4°, 6°.

3. Validate the results by comparison with the analytic solution available in aerodynamics literature.