So far, the first project has been solved using stream function-vorticity formulation with finite difference method.

To verify the numerical results, also solve the fluid flow in geometries of project one using SIMPLE method.

Your report should includes:

1. The method of discretization and discretized equation.

2. Boundary treatments (describing the method of applying boundary conditions).

3. Algorithm or flowchart of program.

4. Source of the code.

5. Contours of u, v, p and stream function.

6. Profile of u, v and p on two lines i.e. $x = 0.5$ and $y = 0.5$ (for Lid Driven Cavity) and the reattachment length, x_r, for Backward Step.

7. Validate your data and compare them with achieved results of stream function-vorticity method too.

8. Interpret the achieved physical results.

You can solve only one of those geometries but who solve the both have 0.5 scores greater than others.

Hint: All details of the geometry is as previous.

Important: All plots must be drawn by Tecplot.