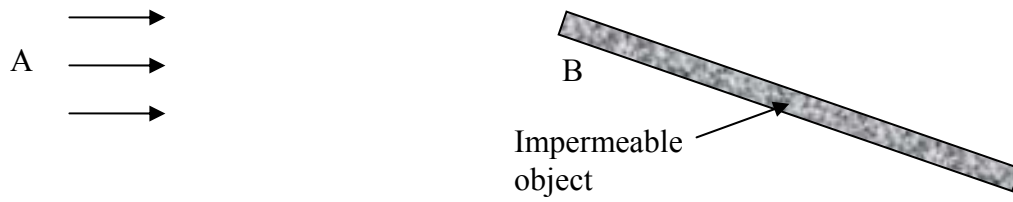


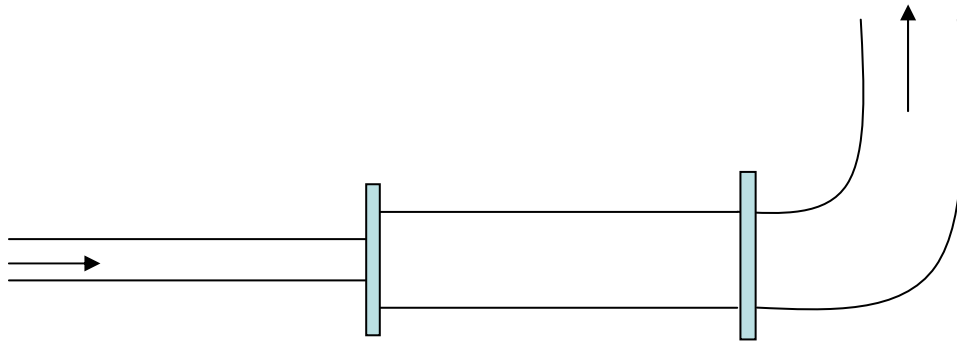
1. Describe the variation of pressure as air moves from Region A to Region B.



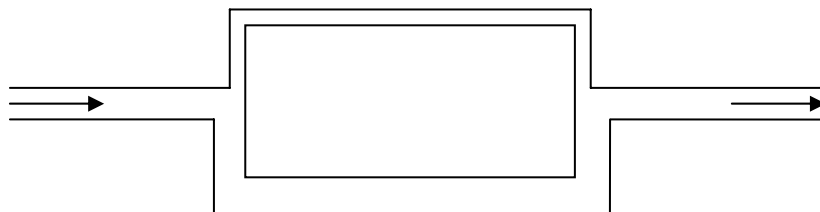
2. Comments on fundamental difference in flow behavior at pipe inlet and outlet.

3. Pipe system analysis:

Series configuration:



Parallel configuration:



4. Application of interpolation in looking up properties.
5. A piston-cylinder device contains 0.1 m^3 of liquid water and 0.9 m^3 water vapor in equilibrium at a pressure of 800 kPa . During a constant-pressure process, energy is transferred to the system by heat transfer until the temperature reaches 350 deg C .
- (a) Determine the temperature and mass of water in the device at its initial state.
- (b) Find the final volume of the water in the system.
- (c) Determine the magnitude and direction of heat transfer to the water during this process.
- (d) Sketch the process on a P - v , T - v and P - T diagram.

