$$\frac{\partial u}{\partial n} = \frac{\partial v}{\partial n} = 0$$

$$\Gamma_{top}$$

$$\Gamma_{in}$$

$$v = 0$$

$$v = 0$$

$$\frac{\partial u}{\partial t} + u \frac{\partial u}{\partial x} = 0$$

$$\frac{\partial v}{\partial t} + u \frac{\partial v}{\partial x} = 0$$

$$\frac{\partial v}{\partial t} + u \frac{\partial v}{\partial x} = 0$$