$$\dot{x} = x + e^{-y}$$
$$\dot{y} = -y$$

Nonlinear, because can't be represented as

$$\dot{x} = ax + by$$
$$\dot{y} = cx + dy$$

## Step 1: Find fixed points

Fixed points (also called stationary points) are those points where the time-derivative of each coordinate is zero. $\dot{x} = 0$ and $\dot{y} = 0$

$$0 = x + e^{-y} \quad \Rightarrow \quad -x = e^{-y} = 1$$
$$0 = -y \quad \quad \Rightarrow \quad \quad y = 0$$

Thus, one fixed point at $(x, y) = (-1, 0)$