

Memory

$$\vec{v} = v_x \hat{i} + v_y \hat{j}$$

$$|\vec{v}| = \sqrt{v_x^2 + v_y^2}$$

$$v_x = |\vec{v}| \cos(\theta)$$

$$v_y = |\vec{v}| \sin(\theta)$$

$$\theta = \tan^{-1} \left(\frac{v_y}{v_x} \right)$$