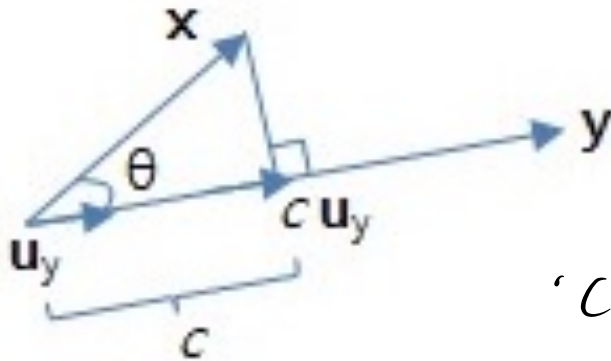


1. [수학] 스칼라 및 벡터 투영



• 'x'는 벡터

• 'y'는 벡터

• 'c'는 길이

$$\cos \theta = \frac{c}{\|x\|}$$

$$\Leftrightarrow c = \|x\| \times \cos \theta$$

○ 스칼라 투영 (Scalar Projection)

$$c = \|x\| \cos \theta = \frac{\|x\| \|y\| \cos \theta}{\|y\|} = \frac{x \cdot y}{\|y\|}$$

○ 벡터 투영 (Vector Projection)

$$c \mathbf{u}_y = c \frac{\mathbf{y}}{\|\mathbf{y}\|} = \frac{\mathbf{x} \cdot \mathbf{y}}{\mathbf{y} \cdot \mathbf{y}} \mathbf{y} = \frac{\mathbf{x} \cdot \mathbf{y}}{\|\mathbf{y}\|^2} \mathbf{y}$$

