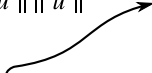


$$\frac{\frac{\vec{u} \cdot \vec{v}}{\|\vec{u}\| \|\vec{v}\|}}{\|\vec{u}\| \|\vec{v}\|} \longleftrightarrow \frac{\text{Cov}(X, Y)}{\sigma_X \sigma_Y}$$


But this is just the correlation  $\text{Corr}(X, Y) = \rho_{X, Y}$ .