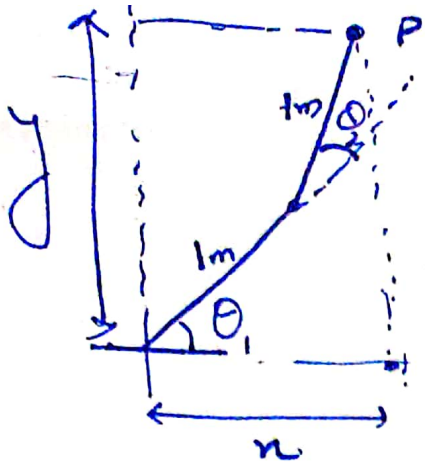

① — $y = \sin(\theta_1) + \sin(\theta_1 + \theta_2)$

② — $x = \cos.\theta_1 + \cos(\theta_1 + \theta_2)$

$$x^2 + y^2 = 2 + 2(\cos(\theta_1 + \theta_2)\cos\theta_1 + \sin(\theta_1 + \theta_2)\sin\theta_1$$

$$\frac{x^2 + y^2 - 2}{2} = \cos\theta_2 \quad \text{— ③}$$

Simplifying & Substituting in eqn ②

$$x = 2\cos\frac{2\theta_1 + \theta_2}{2}\cos\theta_2/2$$

$$\cos^{-1}\left(\frac{x}{2\cos\theta_2/2}\right) = \frac{2\theta_1 + \theta_2}{2} \xrightarrow{\cdot\cdot} \theta_1 = \cos^{-1}\frac{x}{2\cos\theta_2/2} - \theta_2/2$$

$$\theta_1 = \cos^{-1}\frac{x}{2\cos\theta_2/2} - \theta_2/2$$

Substitut θ_2 from ③