② The number of tornadoes in the US follows a Poisson distribution where rate parameter (λ) = 6 tornadoes per year.

@ We want probability of fewer than 3 tornadoes in the US next year.

Here, $X \sim Pois(6)$

We want $P(X < 3) = P(X \leq 2)$

Using the formula, $P(X=x) = \frac{\lambda^x \cdot e^{-\lambda}}{x!}$ and $P(X \leq x) = P(X=0) + \ldots P(X=x)$

$$P(X \leq x) = \sum_{x=0}^{x} \frac{\lambda^x \cdot e^{-\lambda}}{x!} \text{ . So, } P(X \leq 2) = \sum_{x=0}^{2} \frac{6^x \cdot e^{-6}}{x!}$$

$$P(X \leq 2) = \frac{6^0 \cdot e^{-6}}{0!} + \frac{6^1 \cdot e^{-6}}{1!} + \frac{6^2 \cdot e^{-6}}{2!}$$

$$= e^{-6} + 6e^{-6} + \frac{36 \cdot e^{-6}}{2}$$

$$= 7 \cdot e^{-6} + 18 \cdot e^{-6} = 25 \cdot e^{-6} = 0.062$$

Hence, the probability that the USA will has less than 3 tornadoes next year is 0.062.