

This is

related task 3
of project 2.

$X = \# \text{ of seeds out of } 300 \text{ germinated}$

$$n = 300 > 30$$

use CLT

$$1. P\left(\frac{X}{300} > 95\%\right) = P(\hat{p} > 95\%)$$

$$\hat{p} \sim \text{Normalcdf}(0.95, 0.99, 0.92, \sqrt{\frac{0.92 \cdot (1-0.92)}{300}})$$

$$\hat{p} \sim N(\mu_{\hat{p}} = p, \sigma_{\hat{p}}^2 = \frac{p(1-p)}{n})$$

0.92

$$P\left(\frac{X}{300} > 95\%\right) = P(\hat{p} > 95\%)$$

$$\textcircled{1} P\left(\frac{X}{300} > 95\%\right)$$

$$= P(X > 300 * 95\%)$$

$$= P(X > 300 * 95\%)$$

$$X \sim \text{Bin}(n=300, p=0.92)$$

$$= P(X > 285)$$

$$= 1 - P(X \leq 285)$$

$$= 1 - \text{Binomcdf}(300, 0.92, 285)$$

$\textcircled{4}$ simulation

$$\textcircled{3} P(X > 285)$$

$$= P(X \geq 286)$$

$$= P(X \geq 285.5)$$