

## Central limit theorem visualization

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CLT

Statement :- If  $\bar{X}$  is the mean of a random sample of size  $n$  taken from a population with mean  $= \mu$  & finite standard deviation  $= \sigma^2$ , then for  $n \rightarrow \infty$   $\bar{X}$  has a normal distribution with mean  $= \mu$  & S.D.  $= \sigma/\sqrt{n}$

i.e.  $\frac{\bar{X} - \mu}{\sigma/\sqrt{n}} \rightarrow Z(0,1)$  as  $n \rightarrow \infty$

Generally  $n > 30$  works.

