24th February '23
Friday

CLASS #5

Let's start
@
9:05

Agenda :

* fundamentals of descriptive statistics
  - mean
  - median
  - mode
  - range
  - percentiles
  - quartiles
  - IQR
  - Variance, Standard deviation
  - Histogram

- Interview Questions
- Quizzes
- fun coding Case study

1 Cr Package → claim

Avg. Salary 1Cr

Placement ↓

very Less

US company

5 students

1Cr | 1.5Cr | 1Cr | 1.5Cr | 1 Cr

5L
10L
5L

$$\text{Avg Salary} = \frac{1+1.5+1+1.5+1+0.05+0.1+0.05}{8}$$

$\simeq$ 80LPA $\simeq$ 1Cr

30, 30, 35, 40, 40

median

5 people $\Rightarrow n = 5 \rightarrow$ odd

Median $\rightarrow$ Central value.

$$\text{Median} = \left(\frac{N+1}{2}\right)^{th} \text{value} \Rightarrow \left(\frac{5+1}{2}\right)^{th} \text{value} = 3^{rd} \text{ value}$$

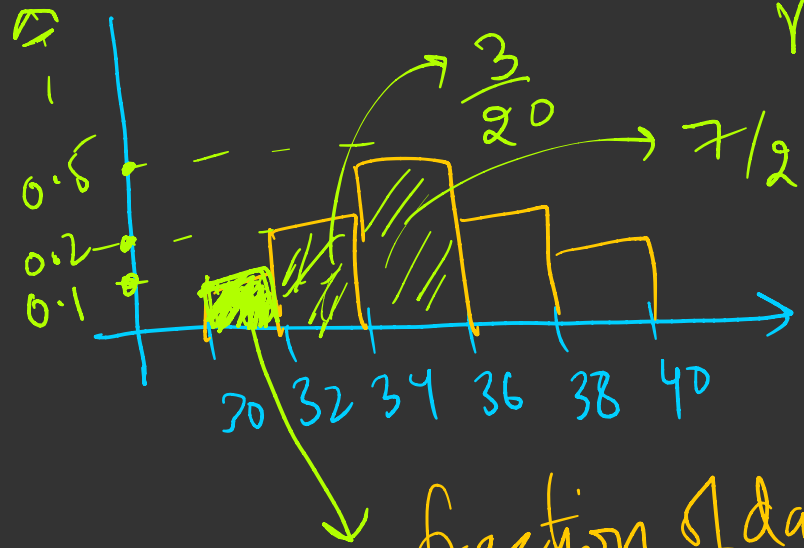
Median = 35

30, 30, 35, 40, 40, 50

$n = 6 \rightarrow n$ is even.

$$= \frac{\left(\frac{N}{2}\right)^{th} + \left(\frac{N}{2}+1\right)^{th}}{2} = \frac{\left(\frac{6}{2}\right)^{th} + \left(\frac{6}{2}+1\right)^{th}}{2}$$

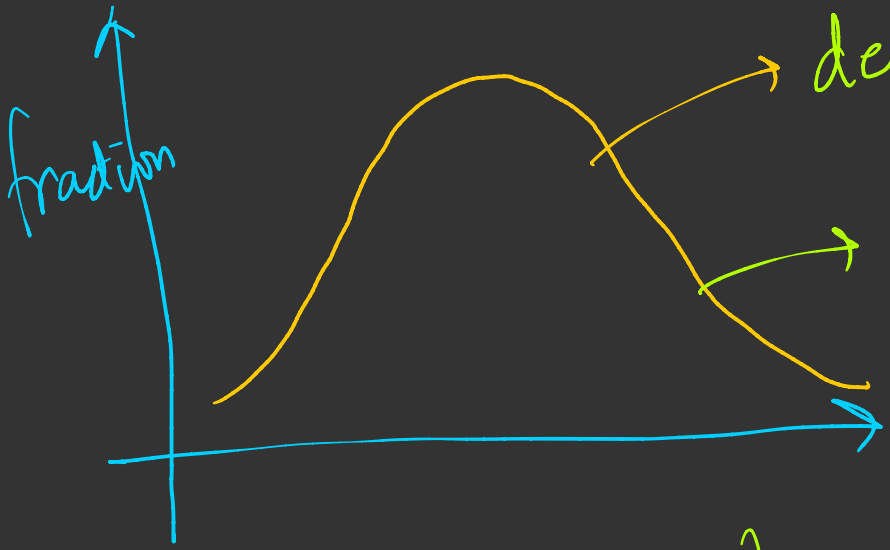
$$= \frac{3^{rd} + 4^{th}}{2} = \frac{35+40}{2} = 37.5$$



$n = 20$

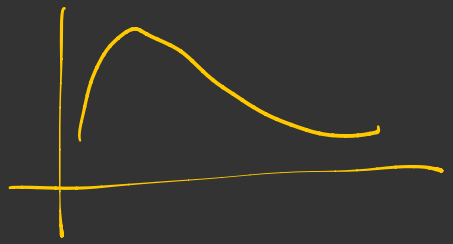
fraction of data in this bar $[30, 32)$

$$= \frac{2}{20} = 0.1$$



density curve.

Probability density fn

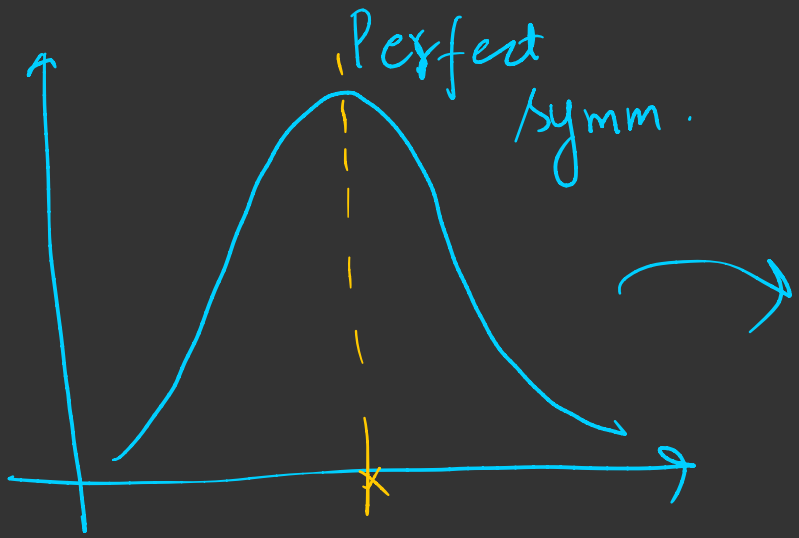


Normal → diff. math fn

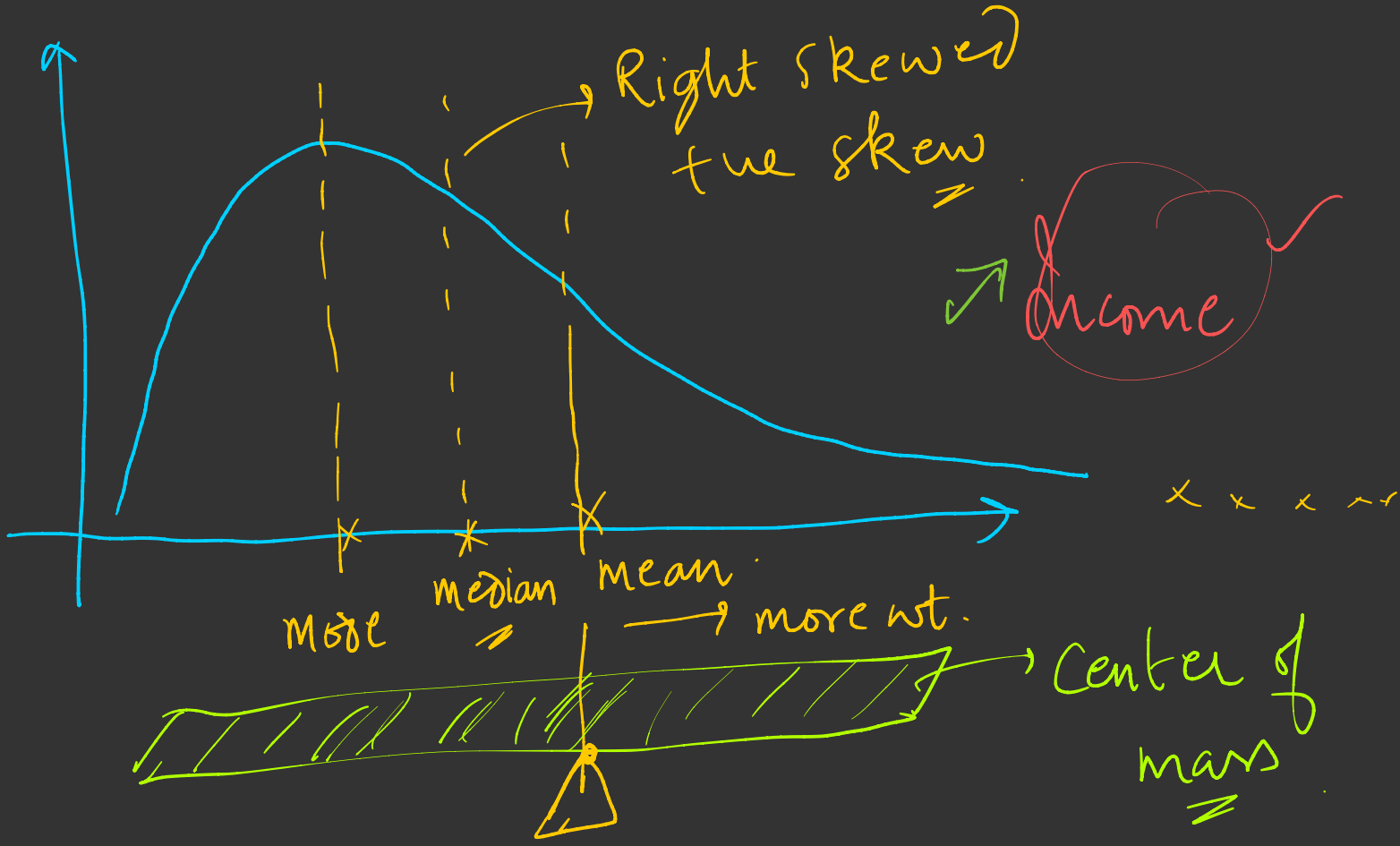
Poisson →

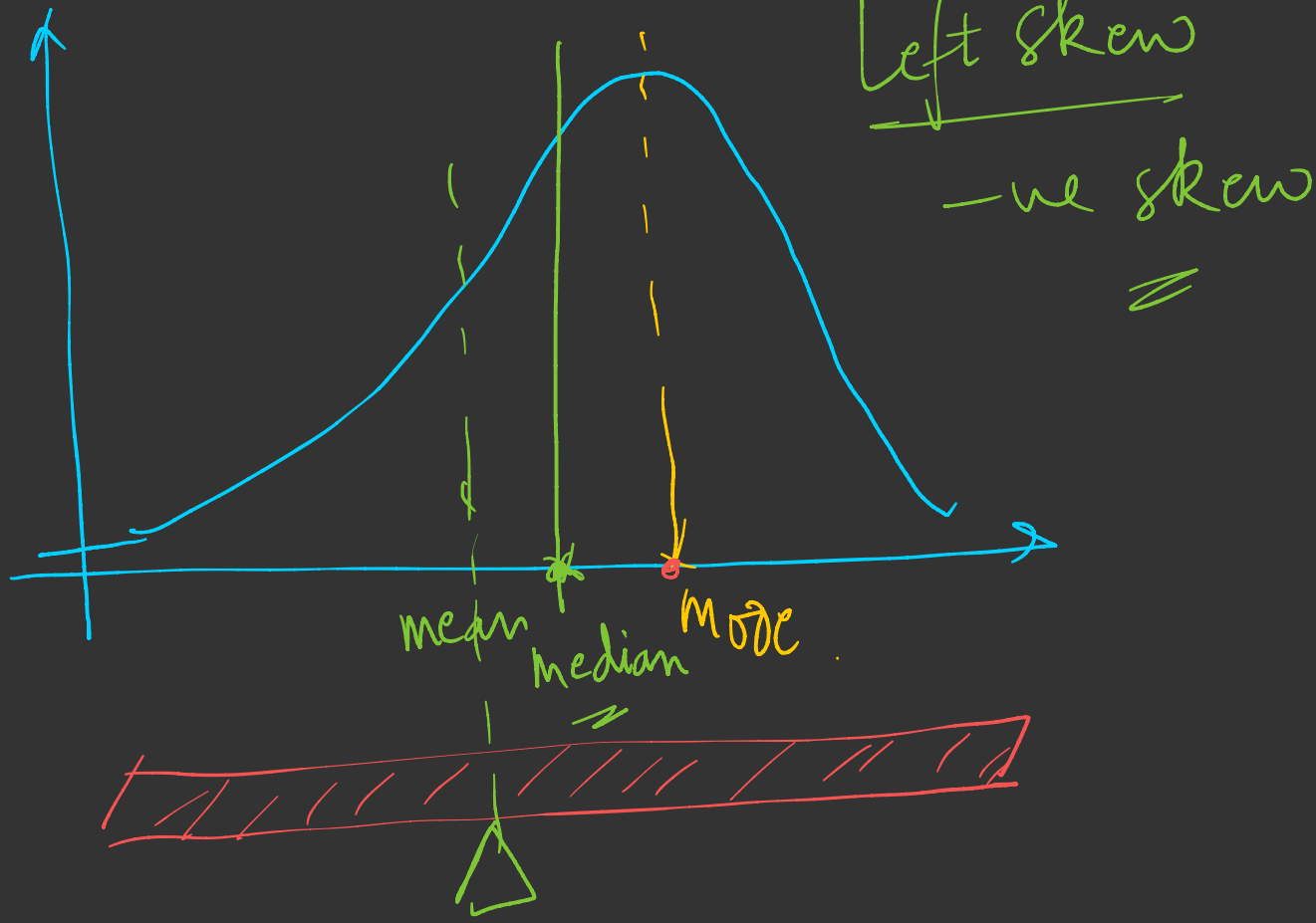
Binomial →

exp. →

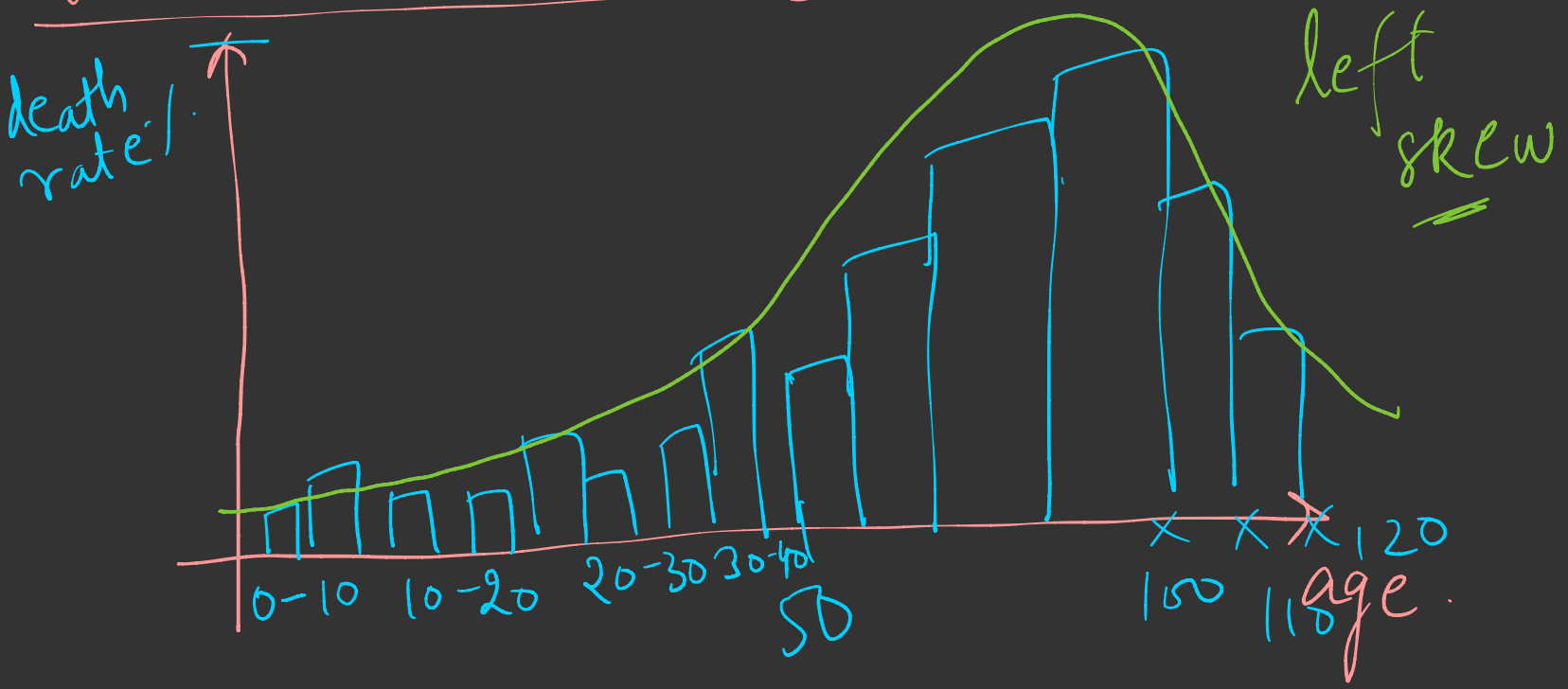


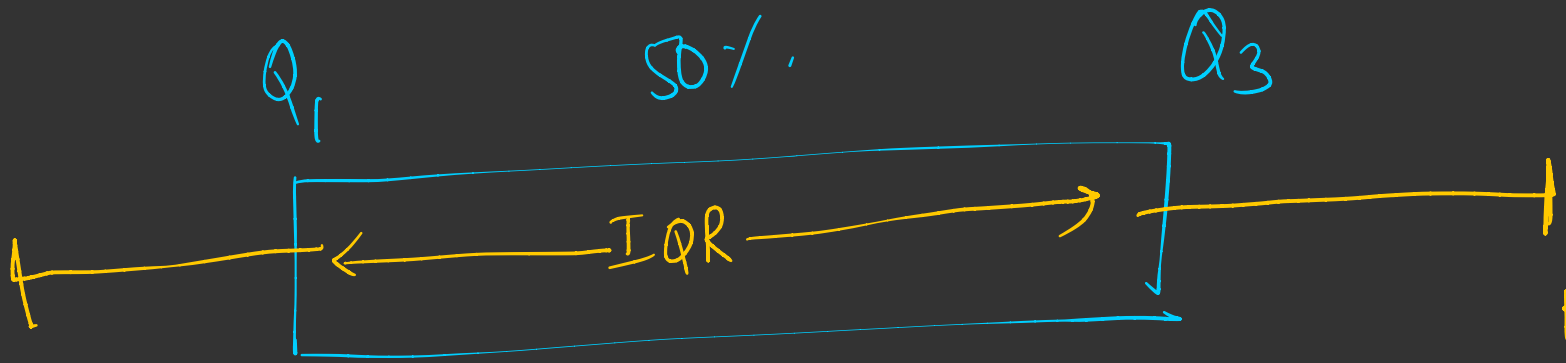
mean
median
mode.


Right skewed
true skew
Income
mode
median
mean
more wt.
Center of mass


Left skew
-ve skew
mean
median
mode

deathrate in 2015 (pre-covid)





L

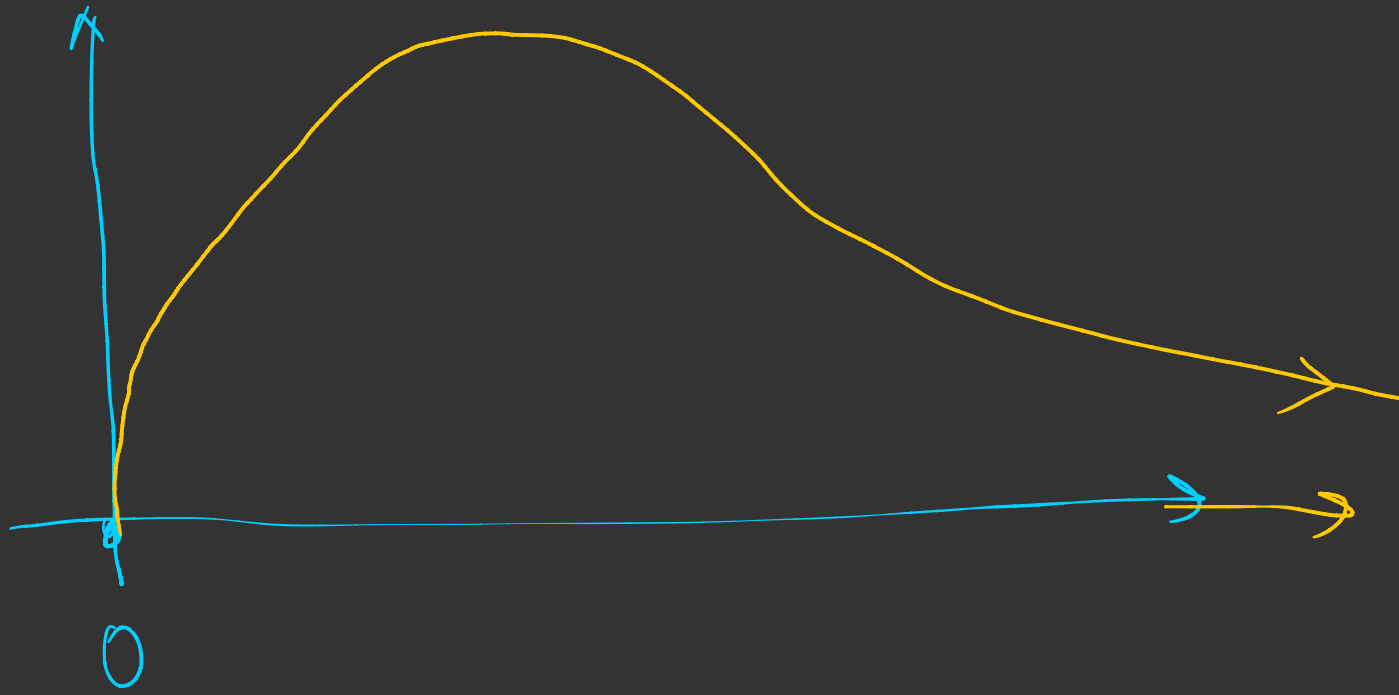
$= Q_1 - 1.5 * IQR$

R

$=$

$Q_3 + 1.5$ IQR

Empirical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