PW SKILLS

Probability Density Function And Probability Mass Function

Cumulative Distribution Function (cdf)

① PMF :

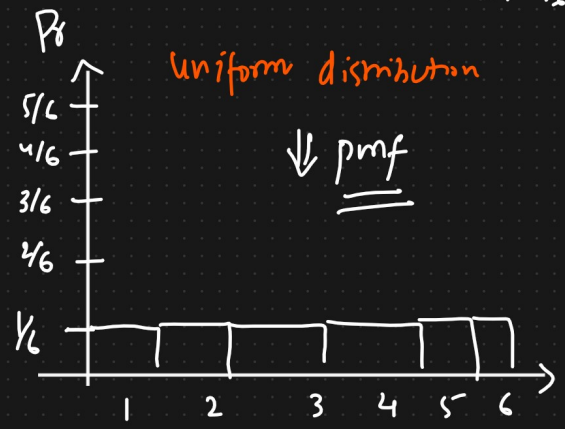
① Discrete Random Variable

PMF

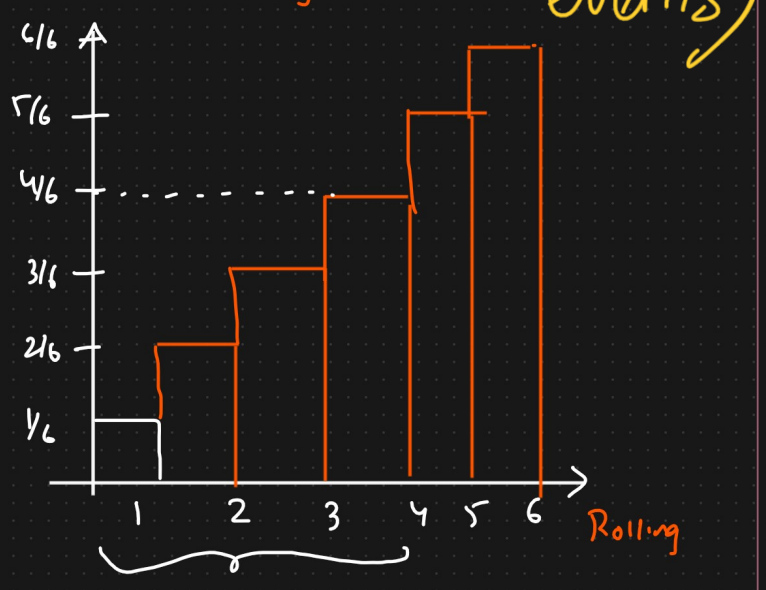
Eg: Rolling a dice

{1, 2, 3, 4, 5, 6} Pr(1) = 1/6

Pr(2) = 1/6



CDF



$Pr(X=1) = \frac{1}{6}$

$Pr(X=2) = \frac{1}{6}$

$Pr(X \leq 4) = Pr(X=1) + Pr(X=2) + Pr(X=3) + Pr(X=4)$

$= 1/6 + 1/6 + 1/6 + 1/6 = 4/6 = 2/3$

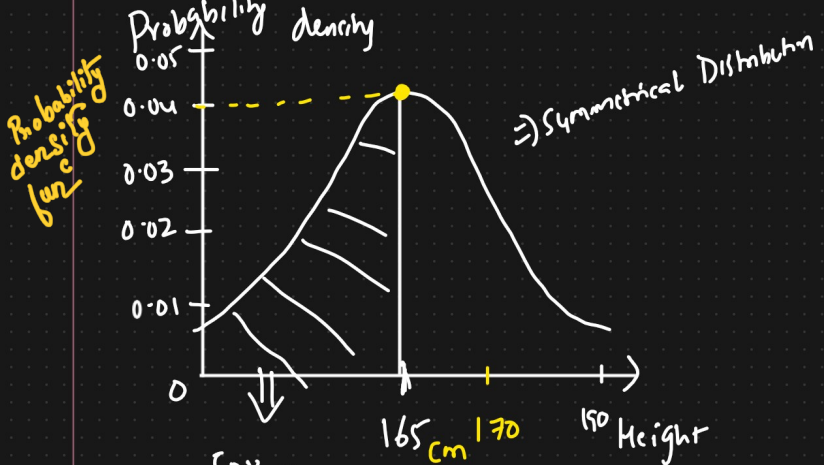
Cumulative

$$Pr(X \leq 6) = Pr(X=1) + Pr(X=2) + Pr(X=3) + Pr(X=4) + Pr(X=5) + Pr(X=6)$$

$$= 1$$

② Probability Density Function (PDF)

Continuous Random Variable



50% of the entire distribution

Probability density

↳ Gradient descent of CDF