

Probability Density Function & Probability Mass Function

Cumulative Distribution Function

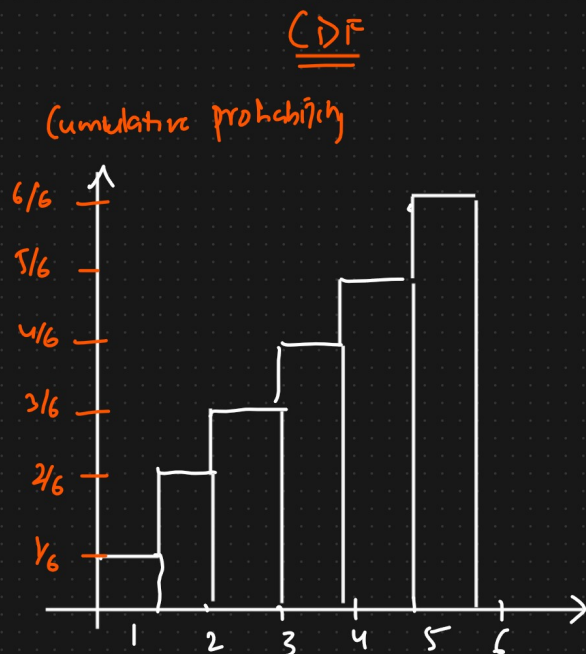
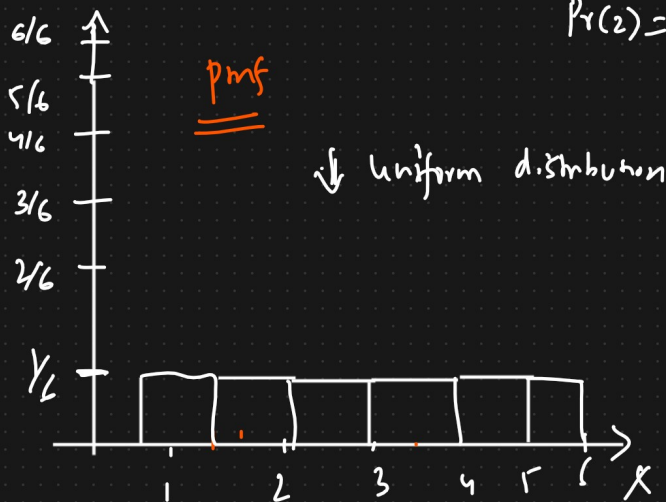
① PMF

① Discrete Random Variable

Eg: Rolling a dice

$\Pr\{1, 2, 3, 4, 5, 6\} \Rightarrow \Pr(1) = \frac{1}{6}$

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

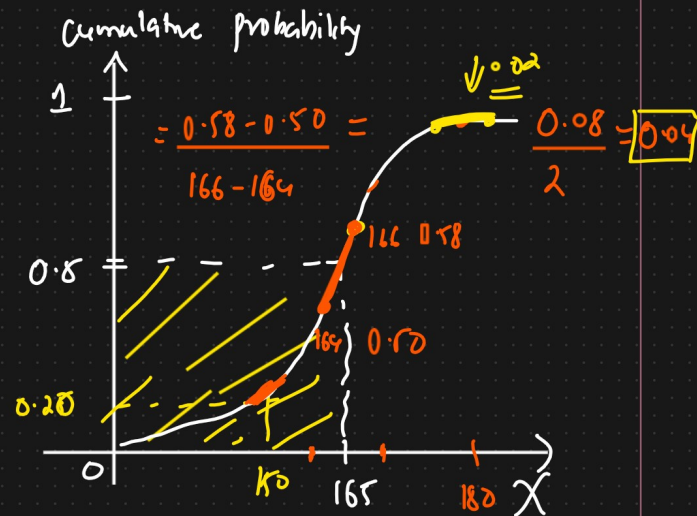
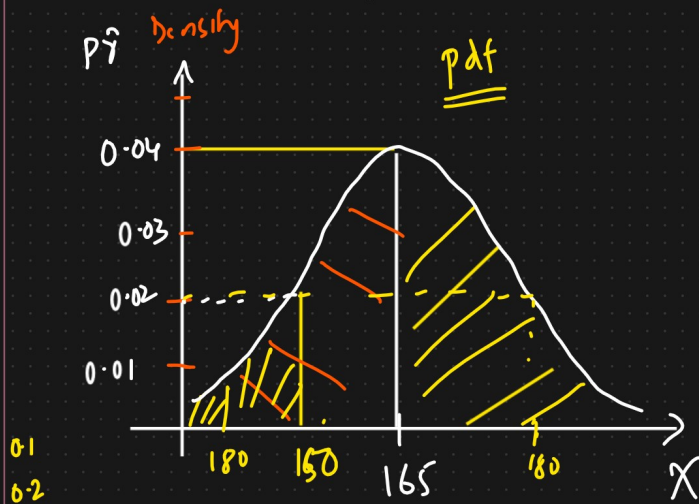


$$\begin{aligned}
 \Pr(X \leq 2) &= \Pr(X=1) + \Pr(X=2) \\
 &= \frac{1}{6} + \frac{1}{6} = \frac{2}{6}
 \end{aligned}$$

$$\Pr(X \leq 6) = \underline{1}$$

② Probability Density Function (pdf)

① Distribution of Continuous Random Variable



Probability Density \rightarrow Gradient of Cumulative Curve