

The Binomial Distribution in Matlab (III)

Cummulative Distribution Function (CDF)

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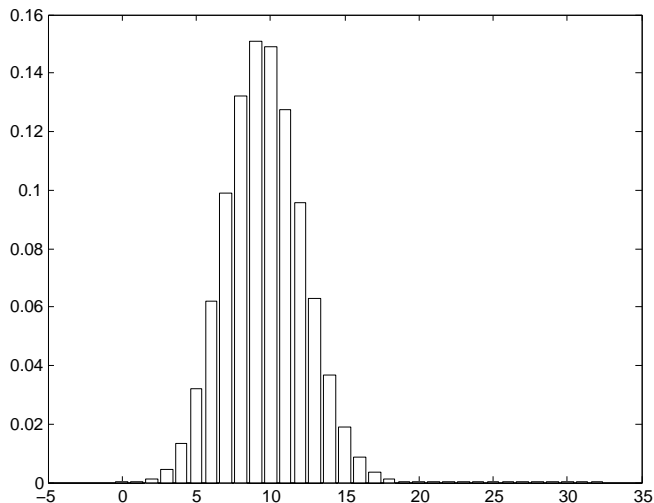
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Probability Distributions

- Probability distribution function
 - PDF/PMF: $f(x) = P(X = x)$
- Cumulative distribution function
 - CDF: $F(x) = P(X \leq x)$

PDF and CDF visualised



Summary

- Cummulative Distribution Function
 - most important tool to quantify probabilities
- Use the lookup tables in the textbook
- Software tools, like matlab (`help cdf`)

Exercise

Suppose you send a word of 1024 bits over a BSC bit error probability $p = 0.02$. What is the probability of getting more than ...

- 1 *2% bit errors?*
- 2 *5% bit errors?*

(Use matlab to find the answer.)