

Cryptography and Information Theory

Information Entropy

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Module Objectives

1. Deterministic vs. Random

Module Objectives

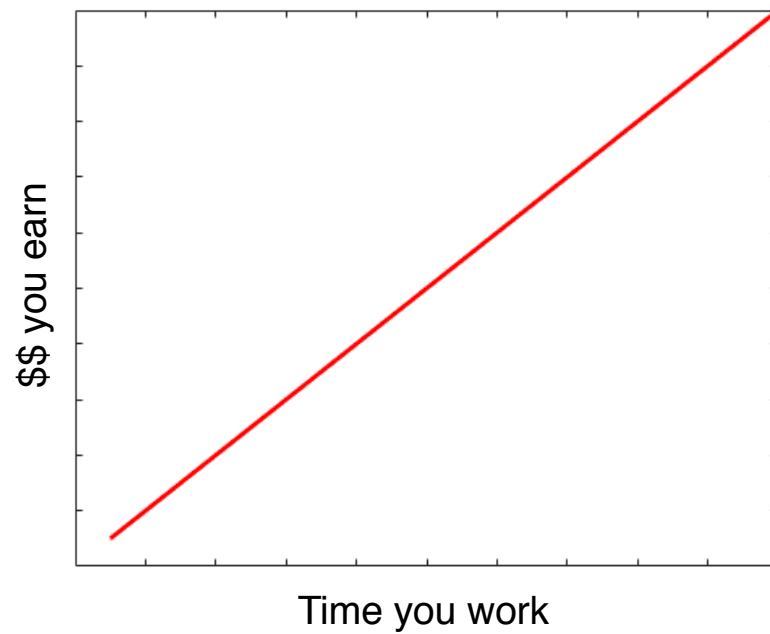
1. Deterministic vs. Random
2. Randomness/Entropy Examples

Module Objectives

1. Deterministic vs. Random
2. Randomness/Entropy Examples
3. Information Entropy Equation
(Alphabet Size and Distribution)

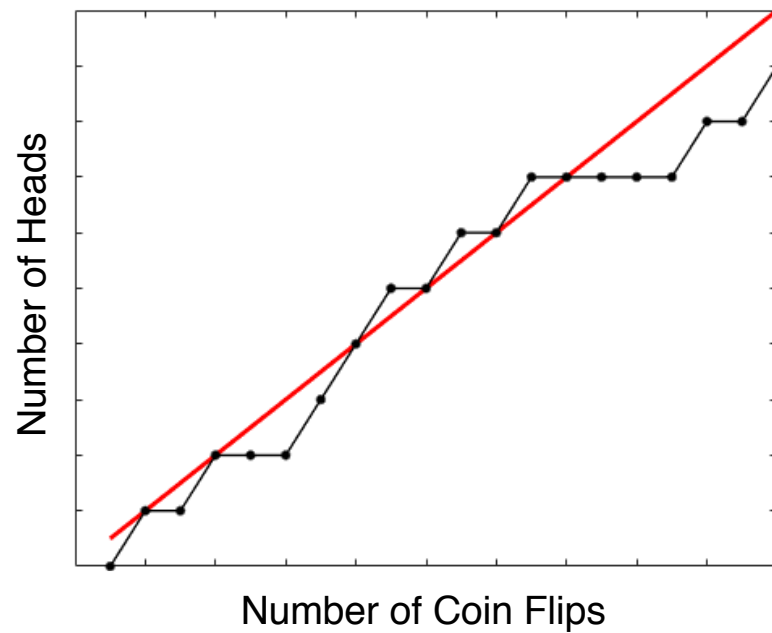
Deterministic process:

The outcome is known with certainty
(occurring with a probability of 1)



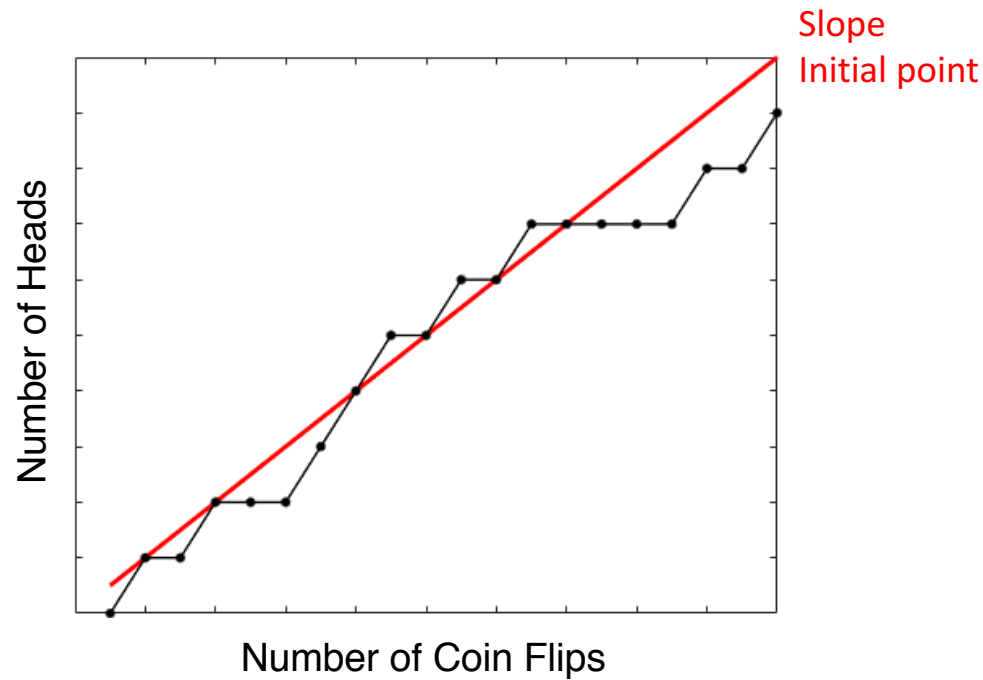
Random process:

Multiple outcomes possible and they occur randomly (modeled by a probability distribution)



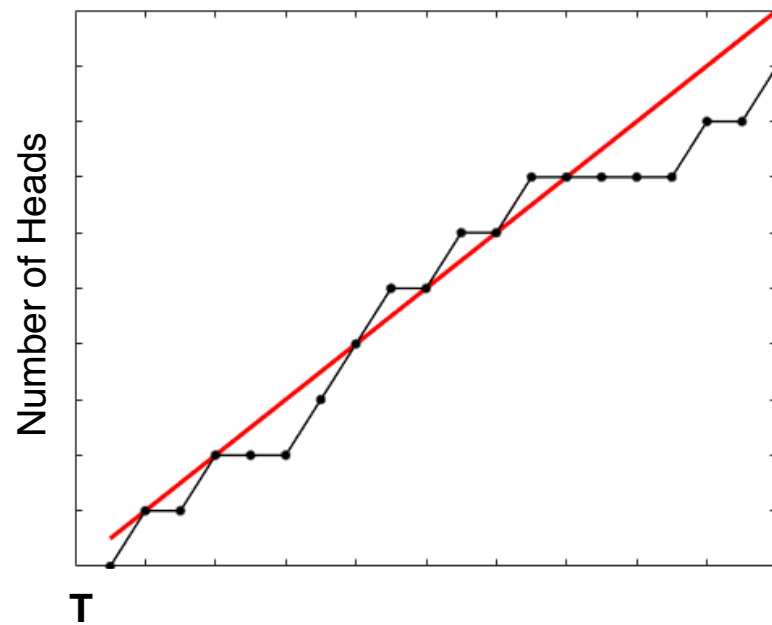
Random process:

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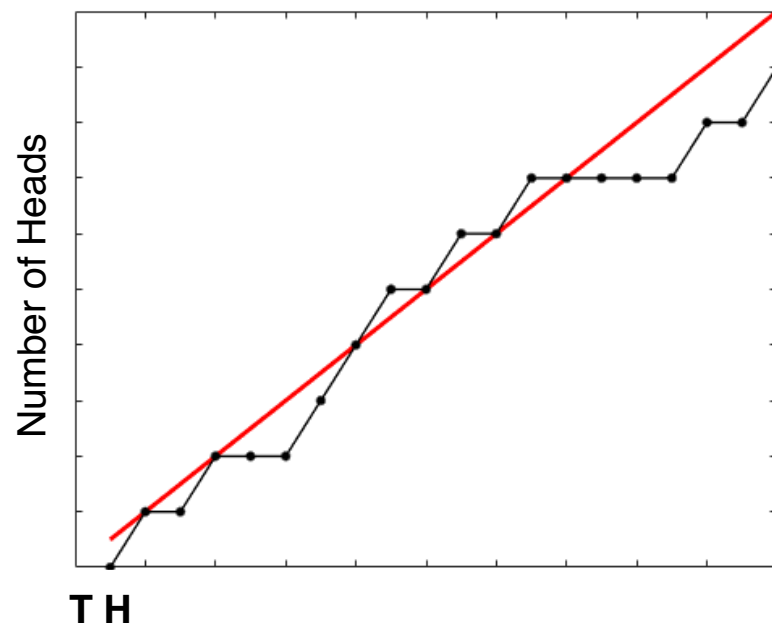
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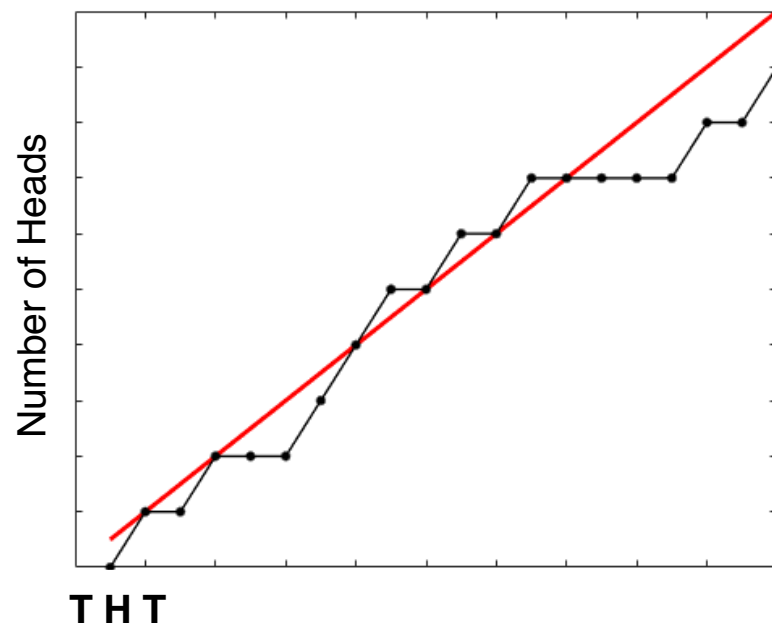
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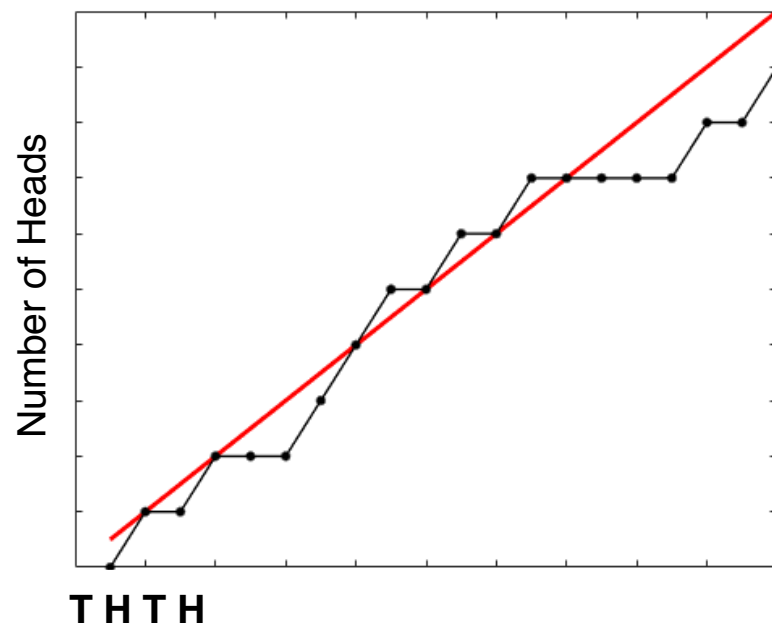
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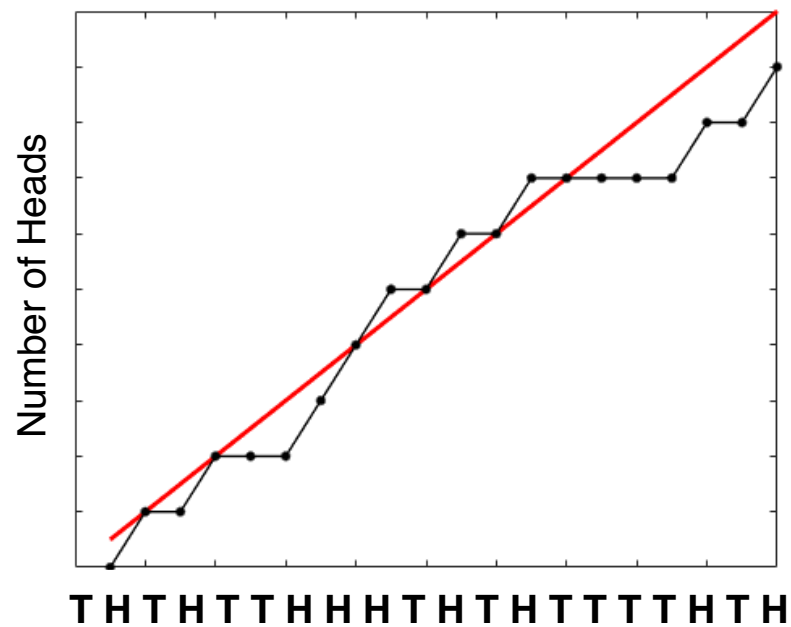
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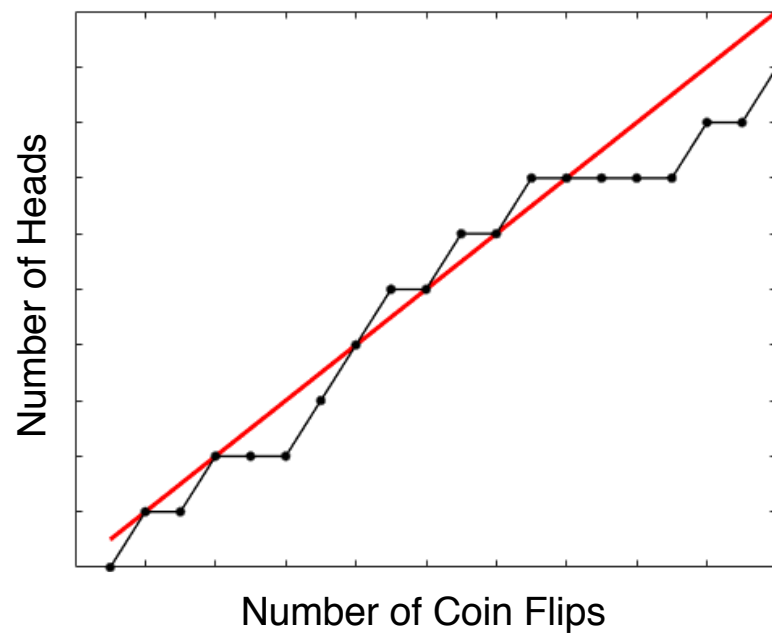


Random process:

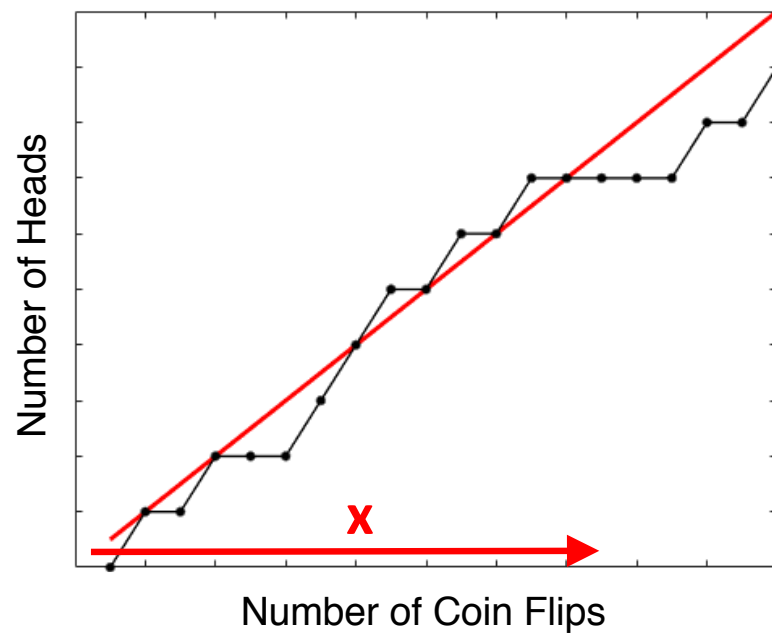
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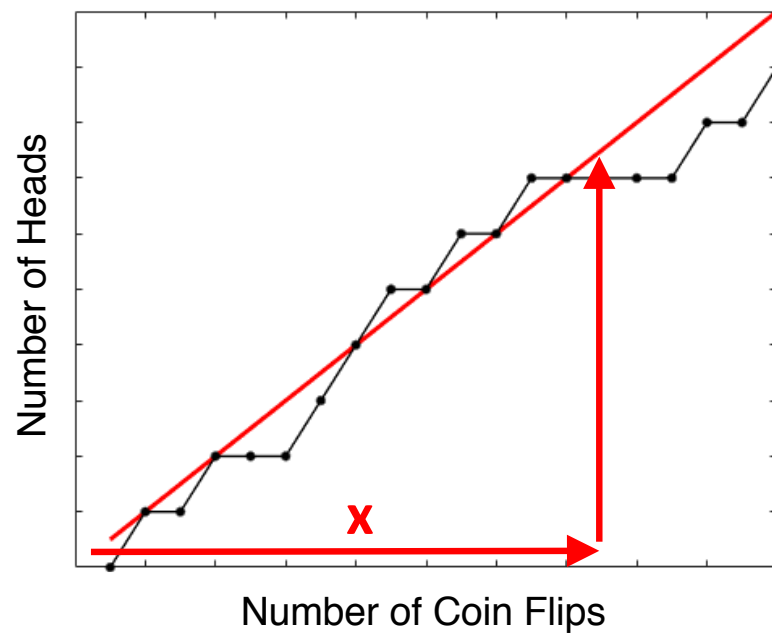
Random process and Deterministic process



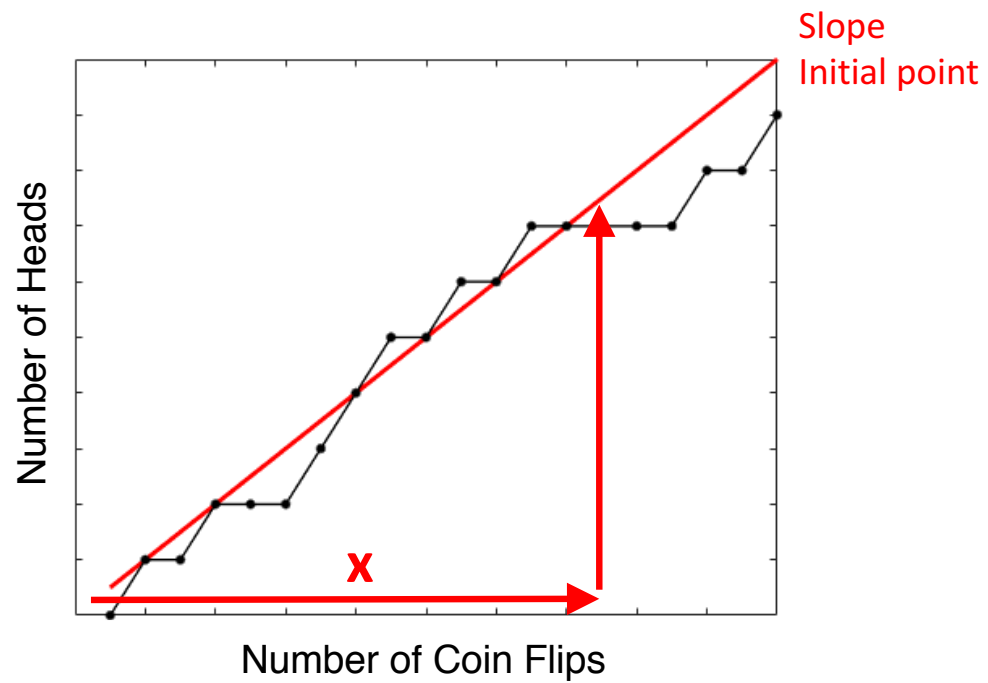
Random process and Deterministic process



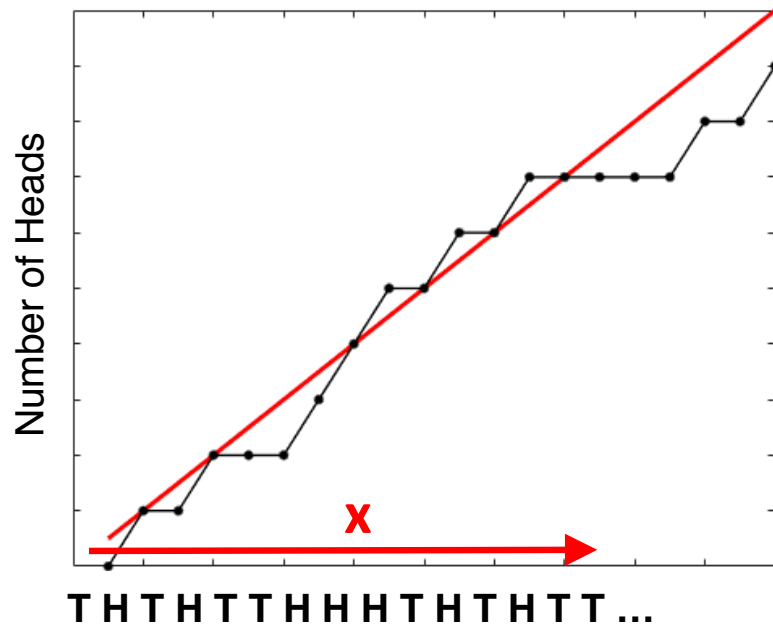
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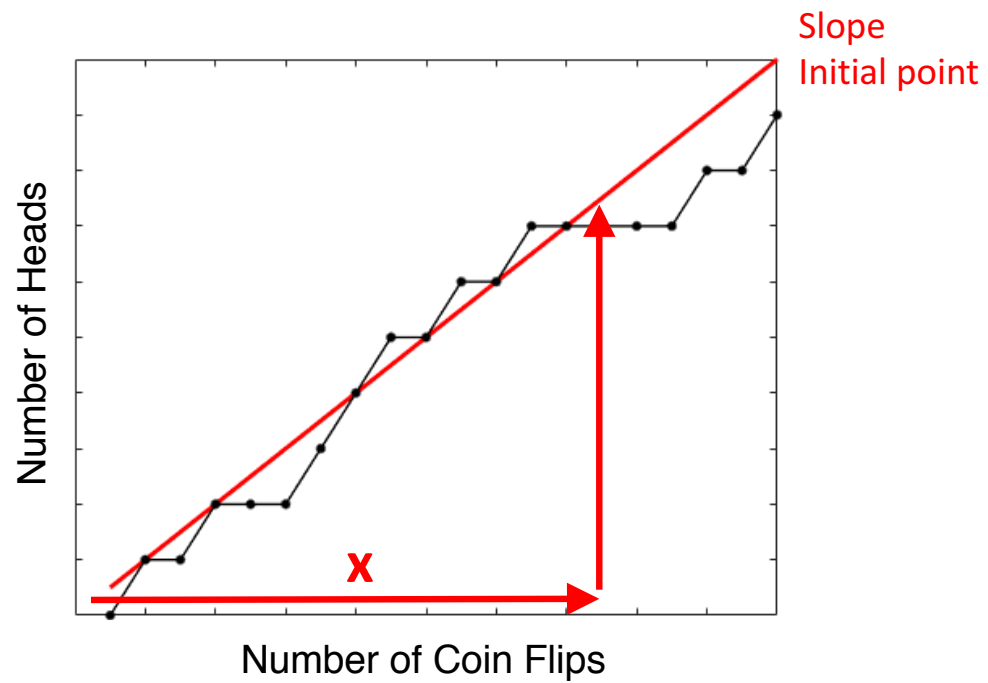
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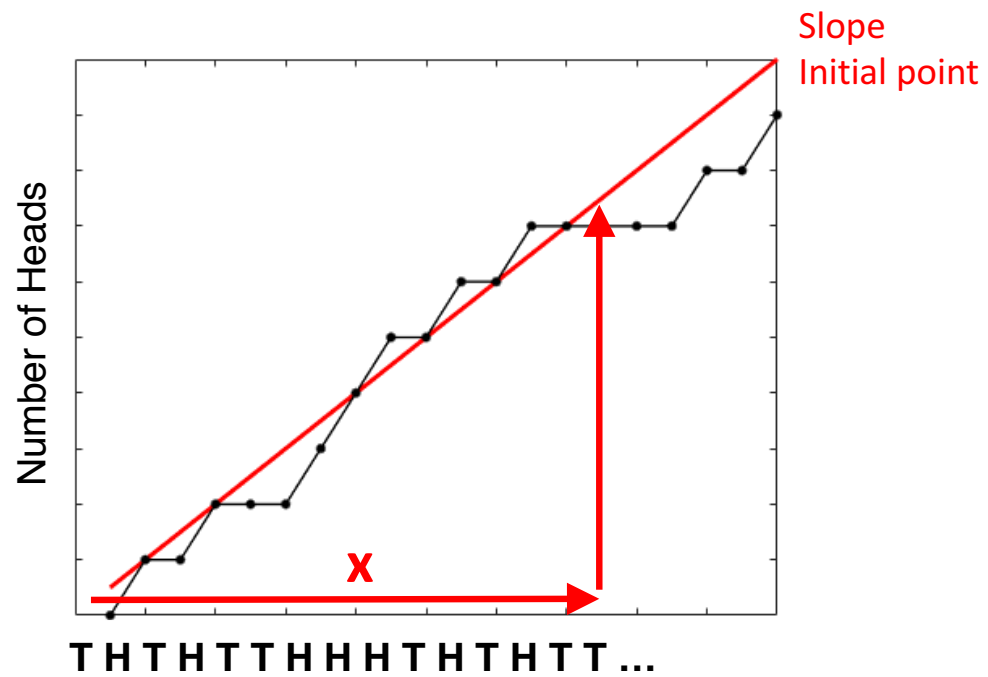
Random process and Deterministic process



Random process and Deterministic process



Random process and Deterministic process



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