Probability Concepts

A - Australia
B - Bangladesh

1. A wins — 0.7
2. B wins — 0.25
3. It is a draw — 0.05

{ Head, Tail }
{ 1, 2, 3, 4, 5, 6 }

- What is probability??
- Concept of Experiment, Sample Space, Events
- A number associated with each Sample Point $P(E_i)$
- Less than 1
- Sum of all probabilities = 1
- $P(A_1 \cup A_2) <= P(A_1) + P(A_2)$
- Intersection of Events, Independent Events (Card Example)

A wins — 0.9
B wins — 0.09
Draw — 0.01

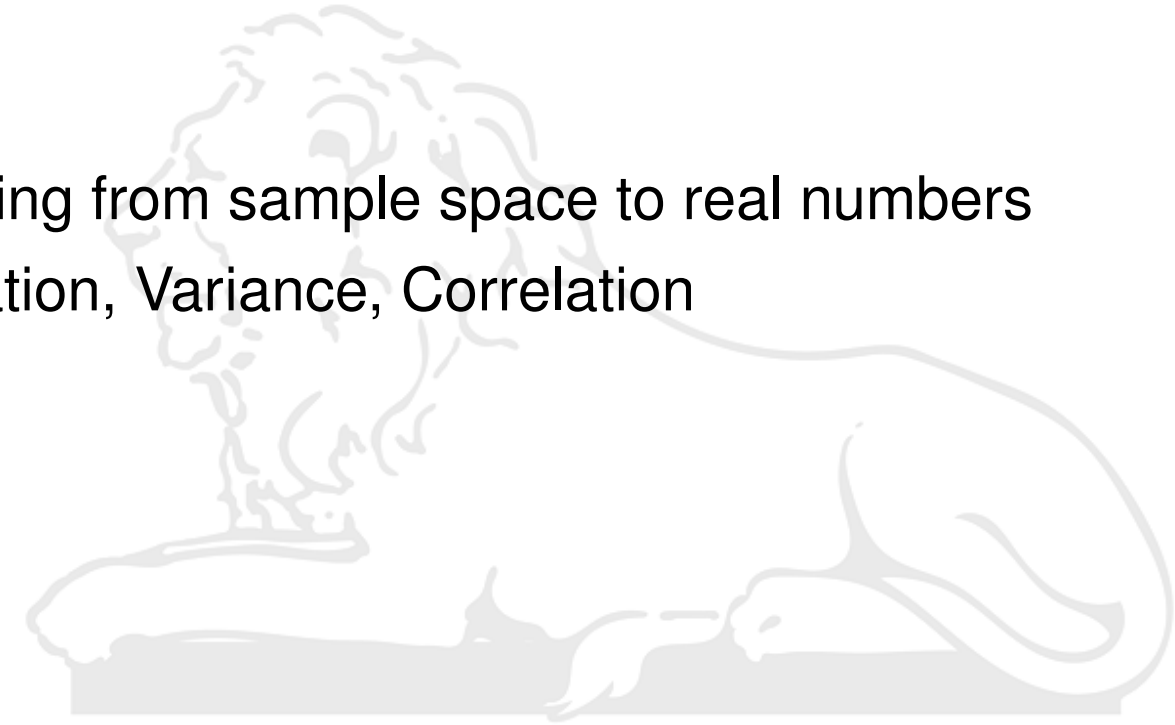
Probability Concepts

- What is probability??
- Concept of Experiment, Sample Space, Events
- A number associated with each Sample Point $P(E_i)$
- Less than 1 $\& \geq 0$
- Sum of all probabilities = 1
- $P(A_1 \cup A_2) <= P(A_1) + P(A_2)$
- Intersection of Events, Independent Events (Card Example)

GodBole's Problem

Random Variable

- A mapping from sample space to real numbers
- Expectation, Variance, Correlation



Pooled Testing Example

A LAB doing Covid testing gets 1000 samples to test everyday. However, due to the positivity rate drop in cases of Covid samples, the LAB is contemplating if it is better to mix the samples to get the result in lesser number of tests. Assuming 3% positivity rate, what is the number of samples that should be pooled together?