Lecture - 1

Probability, Statistics and Information Theory

SC222

Attendance Policy

% attendance	Marks
0 - 50	-10
50 - 80	0
80 - 90	+10
90 - 100	+20

A first course in Probability by Sheldon Ross

Elements of Information Theory by Thomas and Cover

Pre-requisites

- Permutations & Combinations
- Recurrence Relations.

Tutorial 1 is based on these.

Will upload on Moodle.

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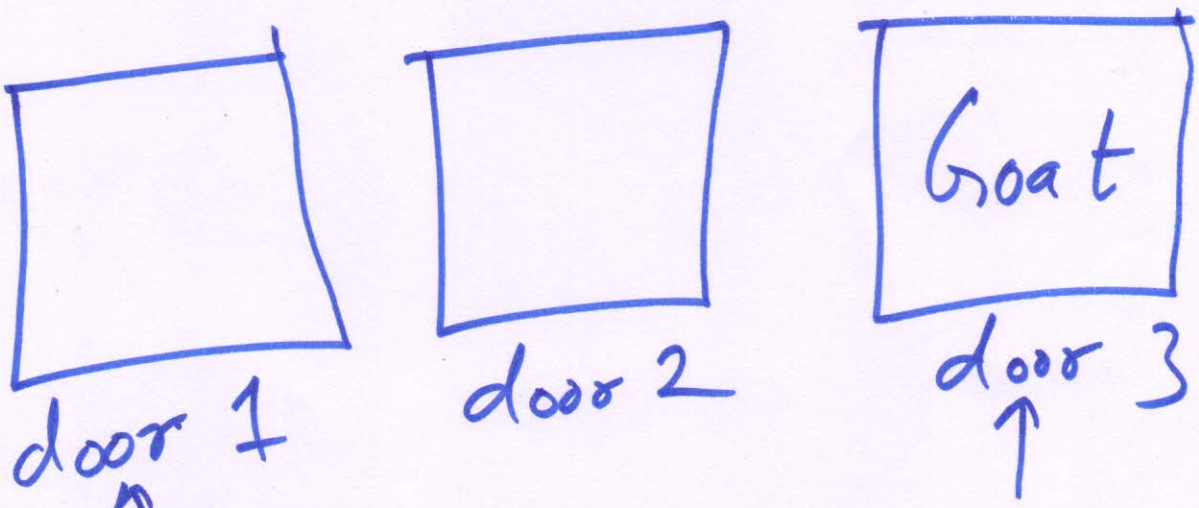
25 + 25 + 50

insem 1 insem 2 endsem

Monty Hall Problem

Lets make a deal.



Participant	Host opens
Goat	Participant randomly chooses a door.
Goat	
Car	

i) randomly choose a box
ii) randomly choose a coin.
iii) it turns out to be a Gold coin.

What is the probability that the other coin in the same box is also a Gold coin?

Sleeping Beauty

→ She goes to sleep on Sunday.

→ A coin is tossed.

→ Head: woken up on Monday and asked a question

→ Tail: M & Tuesday asked a question

She is finally woken up on Wednesday.

What is your belief that it was a Head?