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Discrete Mathematics
Mathematical Induction and pigeonhole principle

Three stories - Connecting the dots

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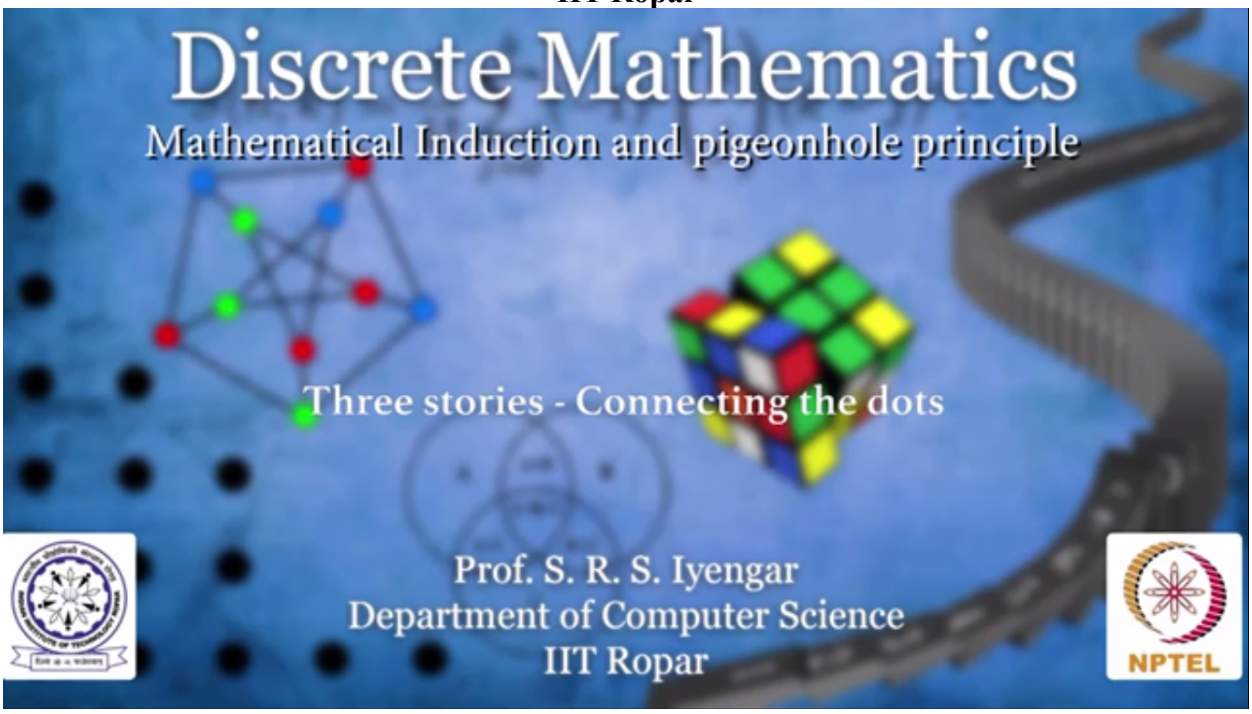

The point is these three things that I told you are surprisingly connected. In fact, what is happening in the first question? If one person emerges and helps an alcoholic to get de-addicted and takes a promise that you are going to de-addict one more alcoholic and just goes on, right, you are sure that the entire city will be de-addicted very soon provided everybody does the job that is assigned to them. Right?

Second example. Wooden block, you disturb the first one, disturbs the second one, disturbs the third one and so on. Please note, if you do not disturb the first one, that disturbance doesn't propagate. If in case there is some i^{th} wooden block that does not fall on the $i+1^{th}$ wooden block and does not disturb the $i+1^{th}$ wooden block, the disturbance does not propagate.

You need to note that the first one should be disturbed. There has to be someone who emerges as a de-addicting – de-addiction expert and de-addicts the alcoholic. It will not start and if someone fails to help an alcoholic somewhere in the middle, it will not – it will get discontinued and these

two problems, they have something to say about the third problem, which is 1 + 2 + 3 up to n is equal to n(n+1)/2.

I am sure you would have figured out by this time what is the connection. If not, watch this video.

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