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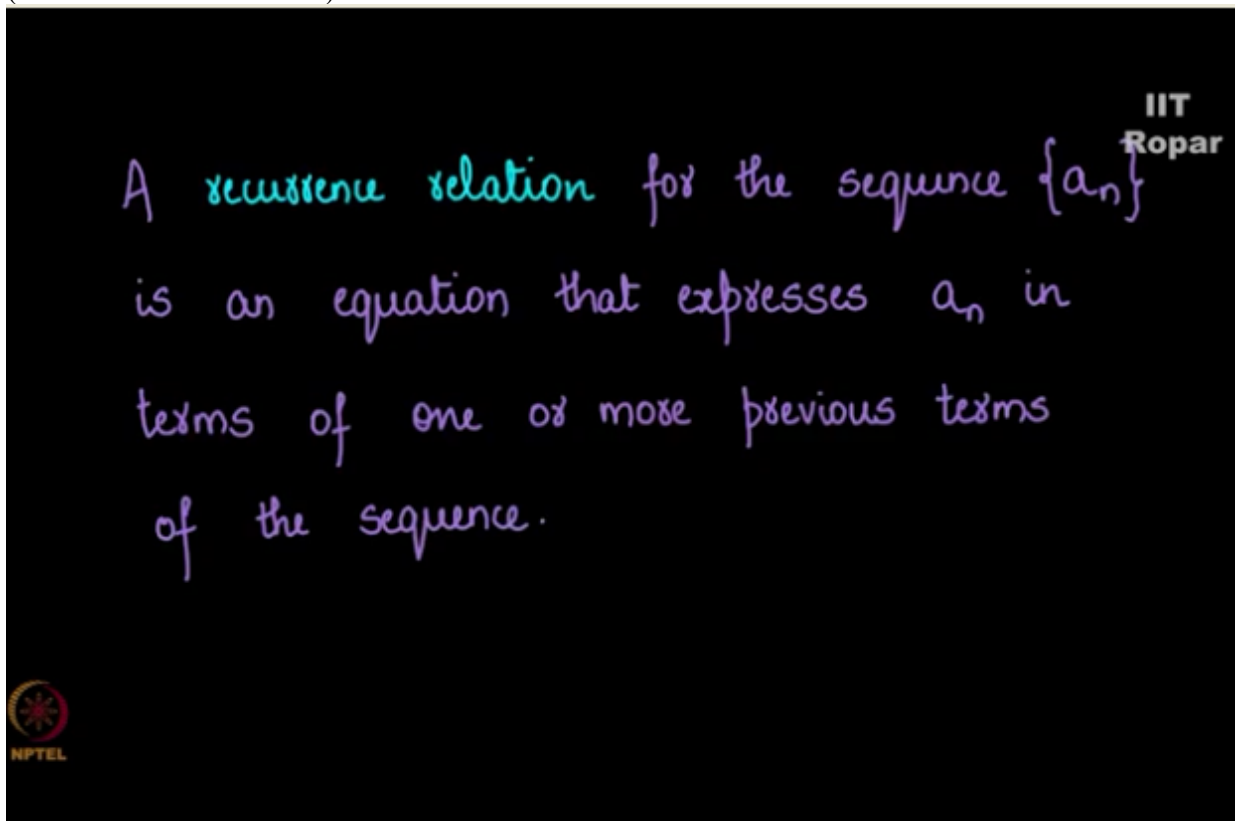
NPTEL ONLINE CERTIFICATION COURSE

Discrete Mathematics
Recurrence Relation

What is a recurrence relation?

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Formally speaking a recurrence relation for the sequence A_N let's say is an equation that expresses A_N in terms of one or more of the previous terms of the sequence,
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for example we saw factorial that was nothing else but $A_N = N \text{ times } A_{N-1}$, we also saw the even numbers and the recurrence relation for that is going to be $A_N = A_{N-1} + 2$,
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Example :

Factorial : $a_n = n \times a_{n-1}$

Even numbers : $a_n = a_{n-1} + 2$



well this is what makes mathematics very complicated, the formal definitions appear very, very abstract so much so that the naive mind will find it very difficult to comprehend in the first run, a better way to learn math is to only look at examples until the mind gets warmed up, so I gave you some motivation with factorial, I told you the formal complicated definition.

Now I'm going to tell you another example which will put everything in place.

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