Discrete Mathematics

Functions

Cardinality condition in Onto function - Part 2

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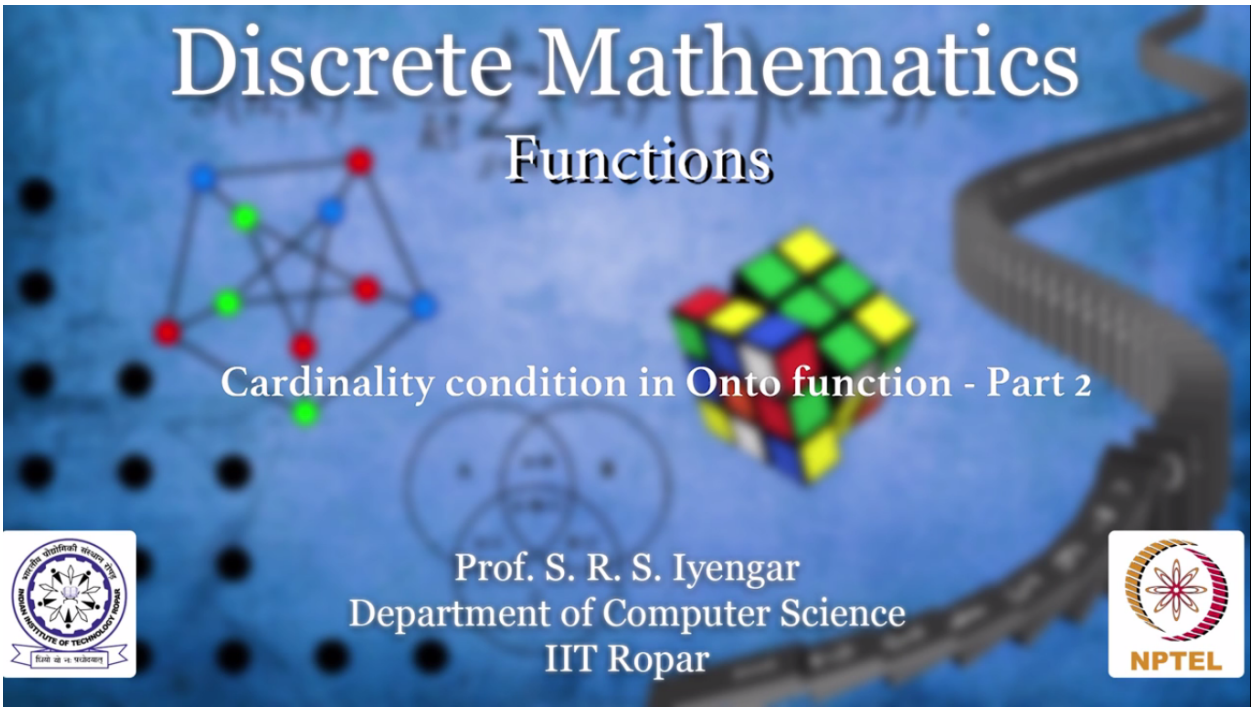
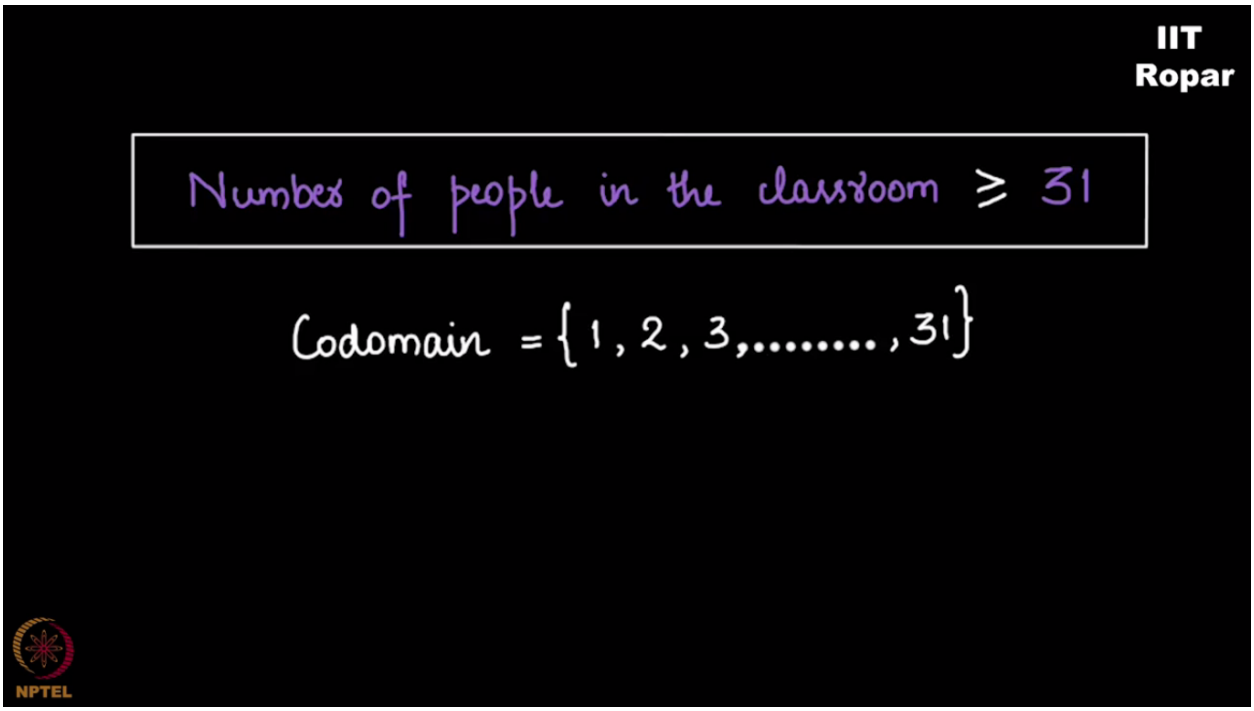


Assume you are given a function that takes every person in a classroom. F simply takes maps a person let's say Ram to his day of birth. He was born on 5^{th} so it goes to five. Please note I am not considering dd/mm, date and month or year. I am simply considering his day of birth. Ram goes to five. Priya goes to let's say 19, she was born on 19^{th} and John was born on 4^{th}. So it goes to 4 and so on. Right.

Now I say this function f is onto. Now don't ask me why am I saying if it's onto? How am I saying if it's onto? I am not showing if it's onto. I am just telling you giving you this information that there is a function f from the set of all people in the class to their day of birth and this function happens to be onto. What can you conclude?



I can conclude that the number of people in the classroom should certainly be greater than or equal to 31. Why is that? Given that the function is onto you cannot have less people here. Why? On the co-domain you have 1, 2, 3 upto 31. If you have less than 31 people at least one number will be left out. Correct. And hence I conclude that given the function f being onto that's what is given to me by you whether I am giving it to you and I say the function is like you can conclude that the number of people in the classroom should certainly be greater than or equal to 31.