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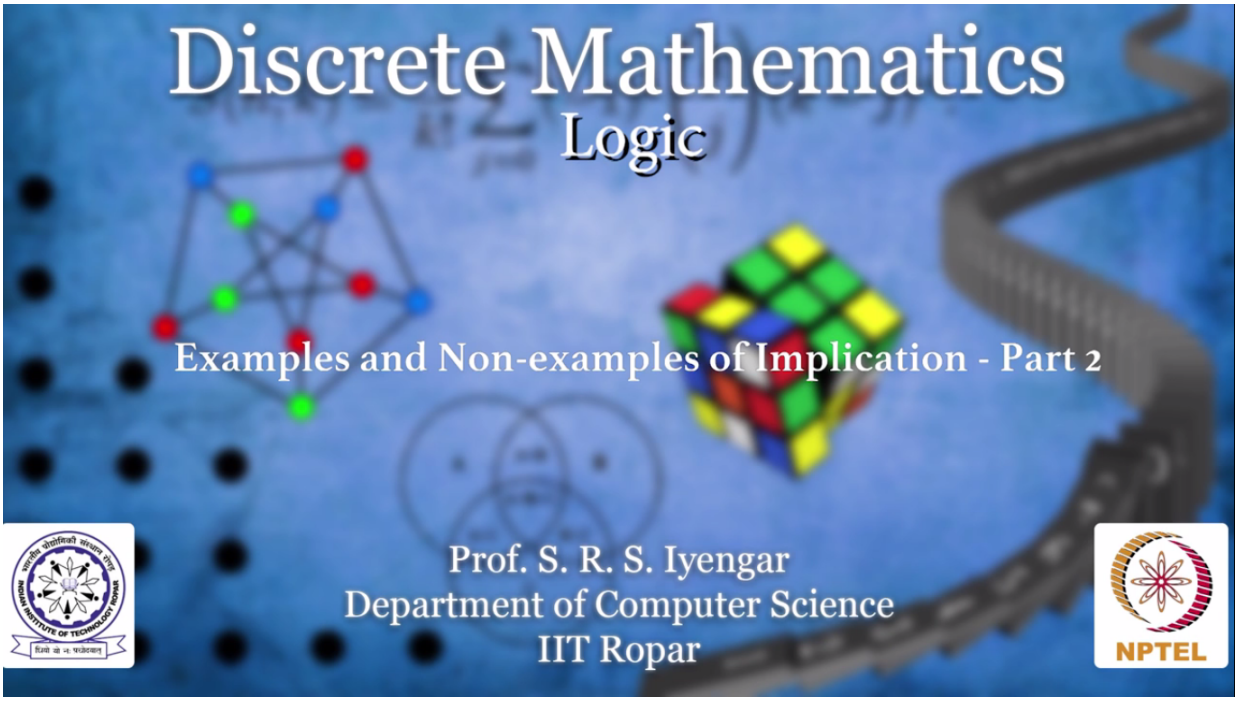

Discrete Mathematics
Logic
Examples and Non-examples of Implication - Part 2
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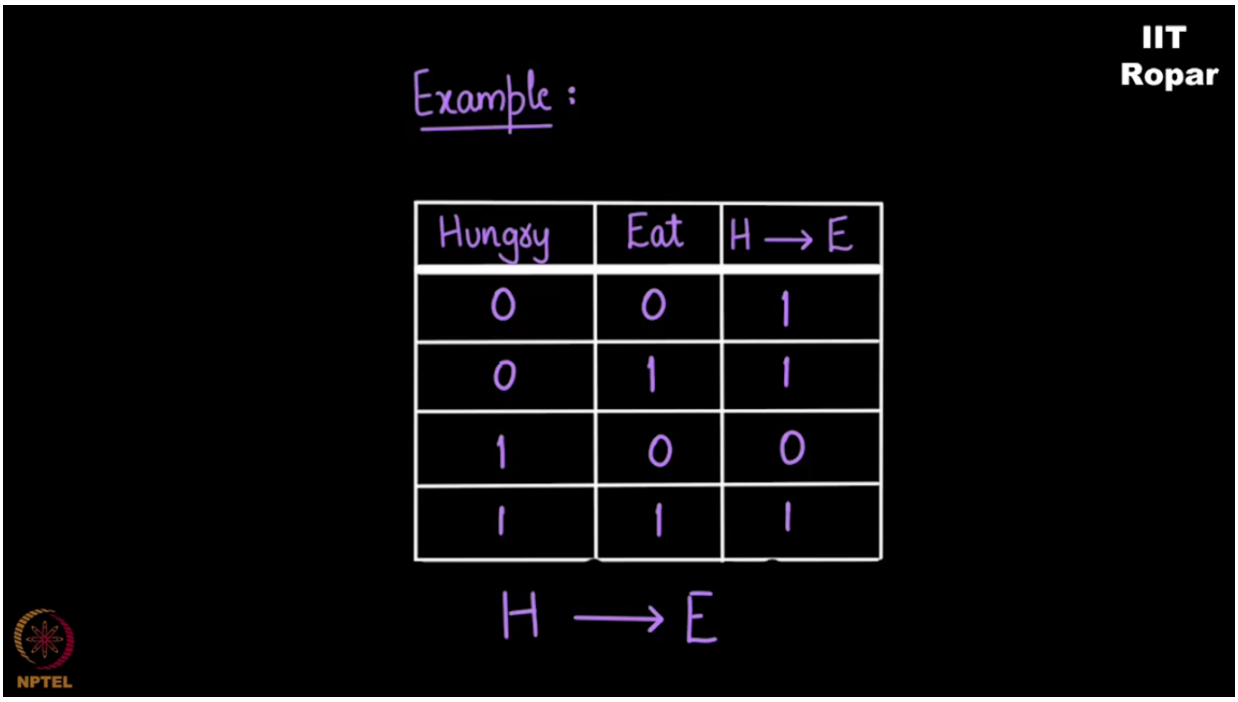
Let us now look at another example of being hungry and eating. I am not hungry. I don't eat. So this is perfectly acceptable. I am not hungry but I eat. You see we do these all the time when we go to a resturant on a let's say stipulated time we will start eating irrespective of whether we are hungry or not. We don't wait for our hunger to pitch in for us to start eating. So this is a true in general. When you are hungry you – when you are not hungry you may end up eating. Perfect. You are hungry and you are not eating. This is not possible. This is impossible. Zero. When you are hungry you are eating. Now that's the way all other living beings behave except humans. So this is perfect. So what I am trying to do here we are trying to say that hungry implies eating is a valid implication. That's what we are trying to say here. You see implication is a hard concept to understand in the first attempt.



The major issue here is what you think is implication and what mathematically implication is there is some sort of a difference. You should grasp that difference with time. So that will only happen when we give you a whole lot of examples. Let us see another example. Let us now start with an example that involves some basic math. Let statement A, B a given number ends in 0. the last digit is 0. Statement B means, statement B stands for that number is even. The number is even. That's what B means. So now let's look at all possibilities A is 0, 0, 1, 1. B is 0, 1, 0, 1. Now when A is 0, B is 0. is this possibility -- is this possible? That's the third column. That's the third column. Is it possible. A is 0 means what number doesn't end in 0. B is 0 means what number is not even. Yeah this is possible. This is very much possible. If you take number this is the property of numbers if the number doesn't end in 0 it is possible that the number is not even. That possibility is there. So I will write 1 here. A 0, B 1 can a number not end with 0 and still be even? Yes the number ending with 2, 4, 6, 8 can be even. So this is possible. So I put 1 here. Now look at the third one. This is the most important part of our discussion. A number ends in 0, A is 1. B is 0 that number is not even. Is this possible? No this is impossible which is 0. Lastly, number ends in 0 and the number is even. Yeah this is possible. So I write 1 here. Now when the last column is 1, 1, 0, 1 we say A implies B is true which means whenever a number ends in 0 we can always say that number is even.