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Discrete Mathematics
Logic
XOR operator - Part 2
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So what would a truthtable for XOR look like? So let me explain. 0, 0, 1, 1, 0, 1, 0, 1. XOR means precisely one of them should be 1. The other one should be 0. Only then it's true. Correct. So 0, 0 will be 0. 0, 1 precisely one of them is 1. So this is true. Precisely one of these two is 1. So 1. So precisely one of them should be 1. This is not true. Both of them are 1. So I will call it 0. This is my exclusive OR and we denote it by a V with a dash in the bottom. Okay. A nice way to understand exclusive OR rather XOR is with the following example also. I gave one example and I will give you another example to make things clear. So assume you have only one pass. And you want to take one of your two friends to a movie. But you have only one ticket. So what you say is dear Ram and Raj I will take one of you. You people decide who wants to come and then I want to accompany one of you only. Now I have an empty ticket. If none of them come I will be unhappy. I want precisely one of them to come. Ram doesn't come, Raj doesn't come, 0, 0, I will be 1, unhappy. Ram comes, Raj doesn't come I will be happy because I have only ticket and Ram joins me. Ram doesn't come. Raj comes I am happy. Ram comes and Raj comes I am in a huge dilemma whom to take right now. Correct? So this is called exclusive OR.

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