Remember in your school days, there used to be voting for the leader of the class, and my teacher would get into a classroom full of 50 students and say, open a sheet of paper and write down the names of people whom you would like to vote. We were given the liberty of writing many names, so I would write some four names, saying I would want this person as the leader or this person or this person or this person, some four names.

So invariably, the teacher would observe that everyone would write down their name first. They all wanted to be leaders of the class. Leaders would get some perks, so nobody wanted to miss that opportunity, but at the same time if everyone only included their names, then nobody else will get elected. So they would include others name as well. So do you see a kind of relation happening here?
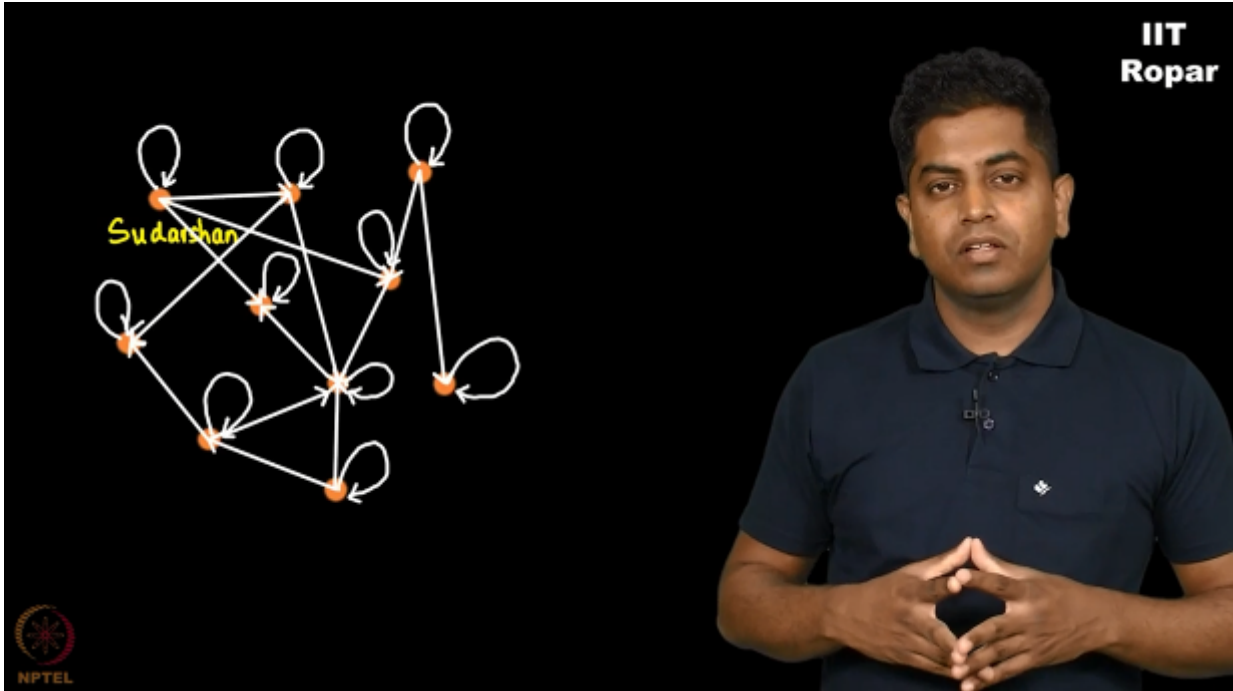
Let's not take the example of 50 students; let's take only 10 students, as you can see the example here, right. Ten dots and some sort of voting that people do. I vote for some four people, this is how it looks like. One of them is me for sure. So when I vote for myself how does the arrow look like? You guessed it right, it should be a loop like this, right. Here is a loop.

In this example of the class teacher taking notes from everyone, there is a loop on every single person, because I told you everybody would vote for themselves invariably, and would vote for others as well.
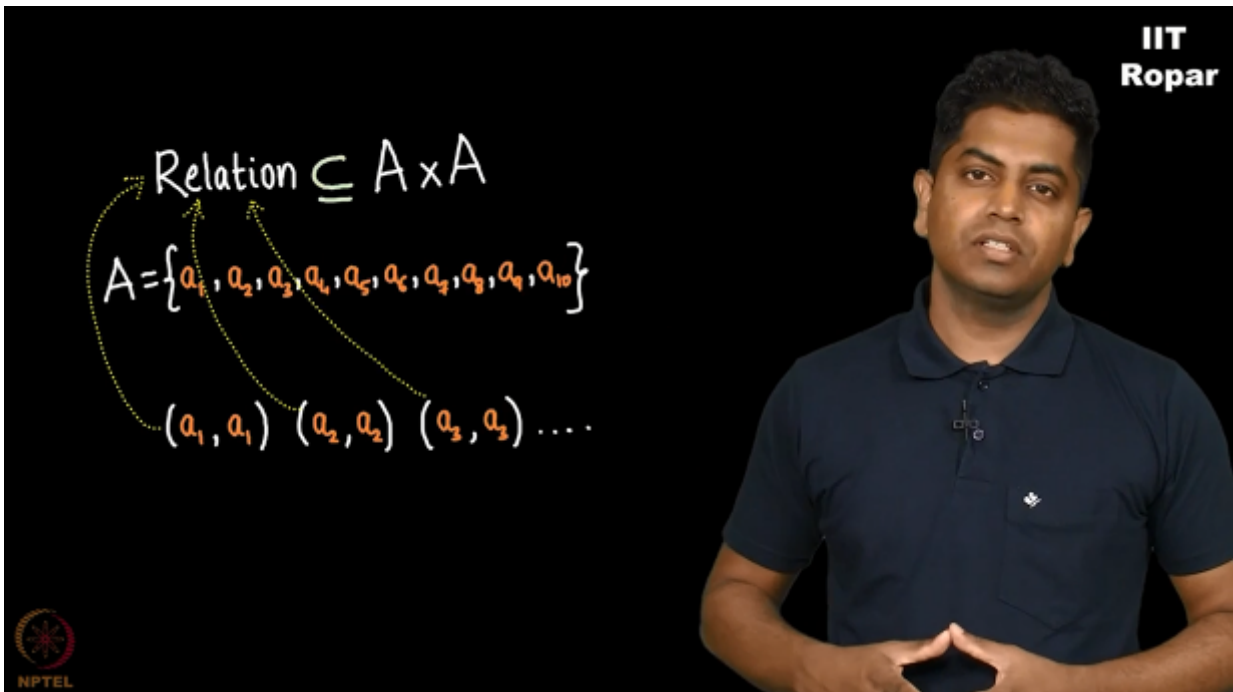
So here is a relation. Let's get back to our A x A definition. Here is a relation, which is a subset of our set A x A where A comprises of all ten students. Definitely, for sure, you observe that self

loops are here, which means X, X is here. The first person, the same person is here. Second person, second person is here, right; (a_1, a_1) (a_2, a_2) (a_3, a_3) and so on up to (a_{10}, a_{10}) is definitely here, and beyond this, there are more elements of A x A.

Such a relation is called a Reflexive Relation. To summarize, a relation is a subset of A x A. If it contains all possible elements of the form x, x for all values of x from the set A, we call such a relation a Reflexive Relation. We'll see some examples of what makes a reflexive relation, so that it becomes very clear to you.