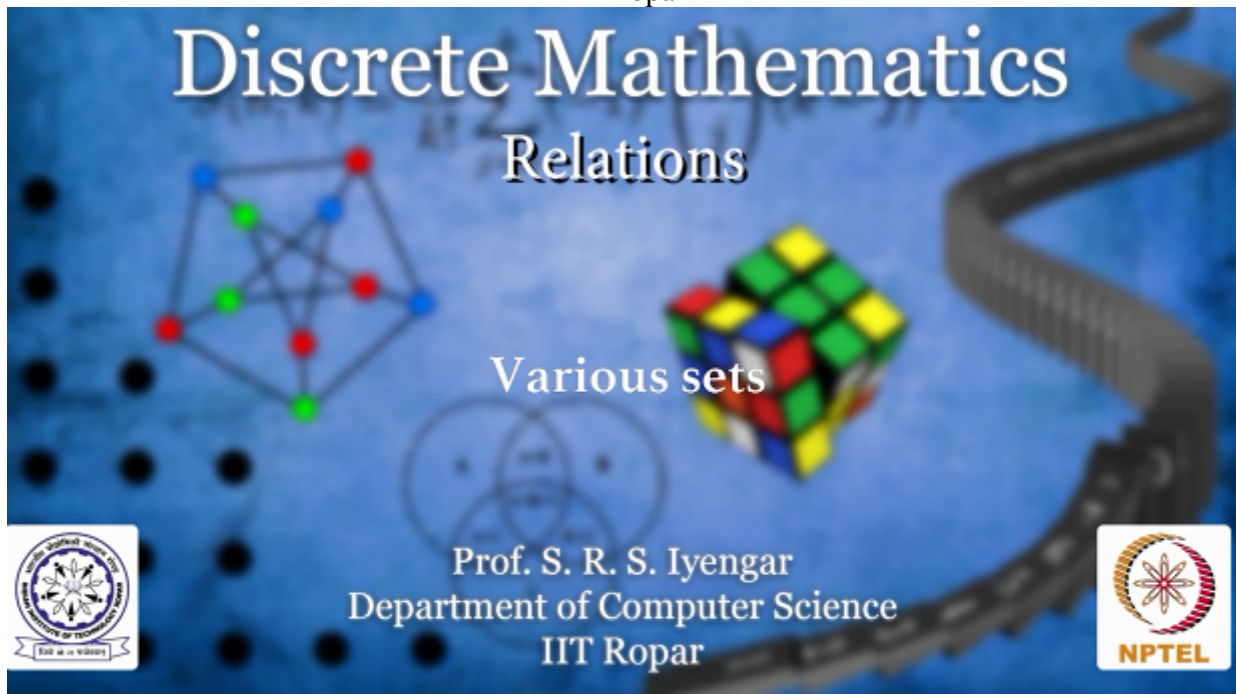


NPTEL
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Discrete Mathematics
Relations
Cartesian Product
With
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In this example, you saw that I told you that set S comprises of five people and there is some sort of relationship between them; someone knows someone, A knows B and things like that.

The diagram shows a set $S = \{A, B, C, D, E\}$ where each element is represented by a stick figure. Below the set, a directed graph shows relationships between these figures: A is connected to B, B to C, C to D, D to E, and E to A, forming a cycle. There is also a bidirectional relationship between A and B.

Please note this, this set need not necessarily be people always and the relationship need not necessarily be he knows him.

The examples show sets S defined by various icons:

- $S = \{\text{red ball}, \text{green ball}, \text{orange ball}\}$
- $S = \{\text{red phone}, \text{blue camera}\}$
- $S = \{\text{Blue mask}, \text{Black mask}, \text{Spider-Man mask}, \text{Iron Man mask}\}$
- $S = \{\text{red ball}, \text{blue camera}, \text{Blue mask}\}$

The elements of the set S can be anything, absolutely anything, right. So keep your mind open to see examples where the set S will comprise sometimes of numbers, sometimes of people, sometimes of, let's say, some abstract quantity. So this is just an example that we said A, B, C, D, E are people, okay. It can be any abstract quantity.

We will be giving you more examples, which will make it very clear to you that A, B, C, D, E can actually be anything, and it need not necessarily be five; it can even be many in number. It will be very clear to you once you start seeing these examples at greater depth.

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