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NPTEL ONLINE COURSE

Discrete Mathematics

Let Us Count

Combination with Repetition - Part 1

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Imagine there is a ice-cream vendor. He sells three different flavors. Precisely three flavors. What are those? Vanilla flavor, chocolate flavor, and mango flavor. And he has a whole lot of these ice-creams of these individual flips. Assume 10 kids visit his shop and they all take the flavors of their choice and the shopkeeper notes that there is a possibility that he sells these ten kids ten ice-creams all of them being vanilla, or all of them could be chocolate and all these could be mango or another possibility is three vanilla, two chocolate, and five mango flavor of ice-cream. Now our question is in how many ways can this vendor sell ten ice-creams three flavors?

So a point to note is actually a possibility of confusion. I am not trying to see this question in the light of the kids there. If ten kids can buy ice-cream in so many ways but I want to see it in the perspective of the shopkeeper. In how many ways can he sell ten ice-creams with three flavors. Right. There are so many ways. Let us count what are these ways.

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