



NPTEL

NPTEL ONLINE COURSE

Discrete Mathematics

Functions

Deck of cards

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Discrete Mathematics

Mathematical Induction and pigeonhole principle

Deck of cards

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The slide features a blue background with various mathematical and recreational elements. On the left, there is a graph with nodes and edges, some colored in red, green, and blue. In the center, there is a Rubik's cube. On the right, there is a black ribbon or strip. The text 'Deck of cards' is positioned in the middle. The IIT Ropar logo is on the bottom left, and the NPTEL logo is on the bottom right.

From a standard deck of 52 cards what is the minimum number of cards you need to pick in order to guarantee that there is a suit with at least three cards? The question sounds a little complicated. Let me explain.

So you are given a standard deck of 52 cards. You must be knowing what is deck of 52 cards. Deck is just the bunch of 52 cards. It is called as a deck. So 52 cards are there. And they are divided into 4 suits. Hearts, clubs, spades and diamonds. You must be knowing. Now how many cards do you need to pick such that it guarantees that there are three cards of the same suit? As I mentioned before suits. So you need to have three cards, at least three cards of the same suit. So how many cards do you need to pick up in order to satisfy this condition?

From a standard deck of 52 cards, what is the minimum number of cards you need to pick to guarantee that there is a suit with at least three cards?

Suits - Hearts, Clubs, Spades, Diamonds



What is that x number of cards you need to pick so that there are at least three cards of the same suit? That is the question. Think about it.