The professor has explained how to count using principle of inclusion and exclusion using Venn diagrams, I'm not going to explain each of the problem using Venn diagram as it would get complicated and the direct application of formula would be easier to solve the problem, but ensure that you understand the underlying principle very clearly, always what happens is we have to formulate the conditions according to the requirement of the problem, you see in most of the problems it is us in how many ways you cannot do it or in how many ways the situation is not possible and so on, right, so you have to formulate the conditions in such a way that you can calculate how it cannot be done, so once you do that taking the complement or rather applying the problem there would become really easy, so the first step you must learn here is formulating the conditions, and the next step here you must really understand well is what you over count and what you under count.

(Refer Slide Time: 01:14)

☑ Solving using formula

☑ Formulate the conditions

☑ Observe overcounting and undercounting.

As you are counting sometimes you remove some extra terms so you have to add them which means your sometimes adding extra terms and then you have to remove, so you must carefully see what you're over counting and what you are under counting and subtract and add accordingly, basically what you must do is if you are unable to understand using the formula directly, draw a Venn diagram and check what is over counting, and what is under counting in that particular problem and you will be able to solve the problem.

IIT MADRAS PRODUCTION

Founded by
Department of Higher Education
Ministry of Human Resources Development
Government of India