1. Software projects professor announced 8 software projects based on health informatics and 12 projects based on insurance companies. Each group of students is asked to select 5 projects.

1. How many ways can only health informatics projects be selected?
2. How many ways can projects be selected so that at least 2 insurance projects are included?

At least two insurance projects = two insurance projects **or** three insurance projects **or** four insurance projects

1. The security passcode of a company requires 6 non repeating digits followed by 3 non repeating alphabets. How many different ways can you select the passcode?

This is a two-part task. In passcode, order is important.

1. How many different arrangements of the letters in the word ***YUPPYZUPPYHAPPY*** can be formed?
2. A fair coin and six-faced die are rolled, what are the odds against of getting a head on the coin **and** an odd number on the die?
3. In a LED bulb manufacturing unit, out of 65000 bulbs, on average 78 bulbs are defective. If a bulb is randomly selected, find the empirical probability rounded to three decimal places that a bulb will not be defective.