

Lecture #19: Conditional Probability and Independence

What Will Happen During the Lecture

Remember... You Had Homework!

Students were asked to work through the following set of lecture notes before this lecture.

- Lecture Notes — “Conditional Probability and Independence”.

As always, you may attend the lecture presentation if you have not worked through this material ahead of time — but it will not be repeated for you, and you might get a little bit lost, during the presentation, if you haven’t worked through this.

Almost everything in the preparatory reading should review material that you already learned about in a prerequisite for this course. However, it is possible that (slightly) different terminology and notation is being used. Some of the results stated near the *end* of the reading might be results that you are learning about for the first time.

Problems To Be Solved

In order to get started, a problem concerning conditional probability and independence that might be found in a textbook on probability and statistics — and that students might have been asked in a prerequisite for this course — will be discussed.

A simple problem, concerning conditional probabilities and ***hash tables with chaining***, will be considered.

Finally, if time permits, the proof of one of the unproved claims from the preparatory reading — the ***Law of Total Probability*** — will be discussed.