Pre-class preparation

Please watch the following video OR read the following textbook sections from Blitzstein and Hwang's *Introduction to Probability* (second edition):

- Video: Conditional variance

- Textbook: Sections 9.5 (skip Example 9.5.4)

Objectives

By the end of the day's class, students should be able to do the following:

- State the definition of conditional variance.

- Use "Eve's Law" to compute conditional variance.

Reflection Questions

Please submit your answers to the following questions to the corresponding Canvas assignment by 7:45AM:

1. Suppose X and Y are random variables. What is one circumstance where X **is not** a constant random variable, but where $\text{Var}(X|Y) = 0$?

2. (Optional) Is there anything from the pre-class preparation that you have questions about? What topics would you like would you like some more clarification on?