Random Variable Independence

1 Why

What does it mean for two random variables to be independent? What are the events associated with a random variable? TODO

2 Definition

A family of random variables are **independent** if the sigma algebras generated by the random variables are independent.

2.1 Notation

Let $(X, \mathcal{A}, \mu)$ be a probability space and $(Y, \mathcal{B})$ be a measurable space. Let $f_1, f_2 : X \to Y$ be a random variables. If the random variables are independent we write $f_1 \perp f_2$.