

Lecture 0 : Notation

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We will use the following notation

\mathbb{Z}	the integers
\mathbb{Q}	the rational numbers
\mathbb{R}	the real numbers
\mathbb{R}^n	product of n copies of \mathbb{R}
\mathbb{P}	probability measure
\mathbb{E}	expectation
$\mathbf{1}_X$	indicator of X
\mathbf{Var}	Variance
$\mathcal{B}(\mathbb{R})$	the borel sigma field
$\mathcal{G}, \mathcal{F}, \mathcal{H}$	some other sigma fields
\mathbf{L}^2	the space of square integrable functions
$X_n \xrightarrow{a.s.} X$	almost sure convergence
$X_n \xrightarrow{\mathbb{P}} X$	convergence in probability
$X_n \xrightarrow{\mathbf{L}^2} X$	convergence in \mathbf{L}^2
$X \perp\!\!\!\perp_A Y$	conditional independence

Definitions will look like

Definition 0.1 *We define one to equal 1*

theorems like

Theorem 0.2 *one and one is 1.*

and proofs

Proof: one and one = $1 \wedge 1 = 1$ and one = $1 \wedge 1 = 1$ and one = $1 \wedge 1 = 1$ and one = $1 \wedge 1 = 1$ and one = $1 \wedge 1 = 1$ and one = $1 \wedge 1 = 1$ ■

with the traditional ■ denoting the end of the proof.