



MOMENT GENERATING FUNCTION

Why

TODO

Results

The *moment generating function* of a real-valued random variable is the function mapping real numbers to the expectation of the exponential of the product of that real number with the random variable.

Notation

Let (X, \mathcal{A}, μ) be a probability space. Let f be a real-valued random variable on X . Let R denote the real numbers. For each $t \in R$, denote by tf the function $x \mapsto tf(x)$. Similarly, denote by e^{tf} the function $x \mapsto e^{tf(x)}$.

Denote the moment generating function of f by $m_f : R \rightarrow R$. We defined it by

$$m_f(t) = \mathbf{E}(e^{tf}).$$

