Test 1 - No.1

DEDP 2017-2018

Exercises

1. Compute the probability that two random variables X and Y, independent and identically distributed with normal distribution $\mathcal{N}(1, 3)$ are positive
2. Compute the temporal average squared value $\overline{x_t^2}$ and the temporal autocorrelation function $R_{xx}[\tau]$ (only for $-3 \leq \tau \leq 3$) for the following sequence:

$$x = [-1, 0, 1, -1, 0, 1, -1, 0, 1, -1, 0, 1]$$

Known:

- $F(x) = \frac{1}{2}\left(1 + \text{erf}\left(\frac{x-\mu}{\sigma\sqrt{2}}\right)\right)$