

Fundamentals of Data Science
Laboratory session
23 March 2023

Problem 1

I roll a fair die twice. Using the counting rules, find the probability that the sum of the rolled numbers is seven.

Problem 2

Calculate means and variances of the following distributions. Calculate the probability of finding $x > 1$.

a)

$$\begin{cases} f(x) = \frac{1}{2} \sin(x) & \text{if } 0 < x < \pi \\ f(x) = 0 & \text{otherwise} \end{cases}$$

b)

$$f(x, y) = e^{-x-y} \text{ when } x \geq 0 \text{ and } y \geq 0$$

$$f(x, y) = 0 \text{ otherwise}$$