

# Exercise 1 MLARPIIS

Kinansa Husainy

October 2025

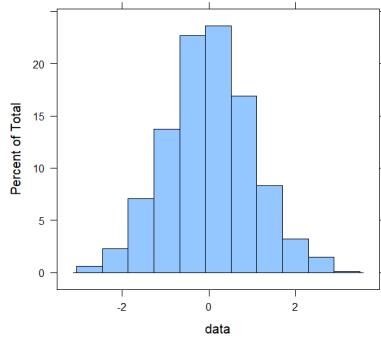
## 1 Equation, Figures, and Tables

Back in our second semester, I remember in Bayesian Statistics course we were told to memorize the equation of normal distribution probability density function. We all tried to, in preparation for the exam. One semester later, I manage to completely forget it already, so I will add the equation as a reminder here.

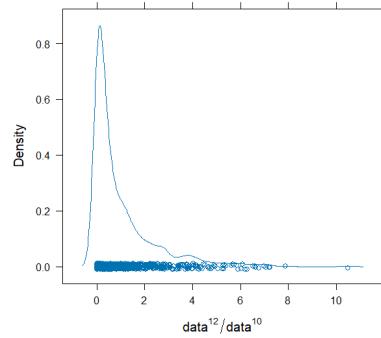
$$f(x) = \frac{1}{\sigma\sqrt{2\pi}}e^{-\frac{1}{2}(\frac{x-\mu}{\sigma})^2} \quad (1)$$

This is the general form of the probability density function of a normal distribution.

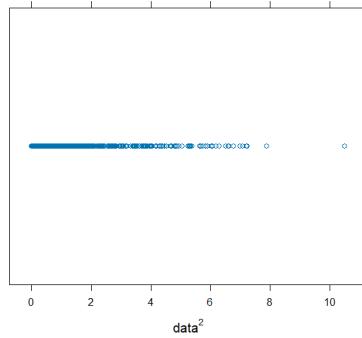
## 1.1 Figures



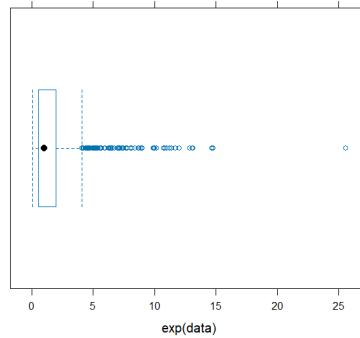
(a) Histogram



(b) Densityplot



(c) Stripplot



(d) Boxplot

Figure 1: Different plots of the same data, sometimes transformed.

## 1.2 Table

Table 1: The same data, but now in a table. Only the first nine rows are displayed.

	data	squared1	squared2	exponent
1	-0.56	0.31	0.31	0.57
2	-0.23	0.05	0.05	0.79
3	1.56	2.43	2.43	4.75
4	0.07	0.00	0.00	1.07
5	0.13	0.02	0.02	1.14
6	1.72	2.94	2.94	5.56
7	0.46	0.21	0.21	1.59
8	-1.27	1.60	1.60	0.28
9	-0.69	0.47	0.47	0.50

## 2 Fairytale

The Enchanted Garden and the Luminous-Magical Dove

Once, in a land covered by mists and whispers, there lay an enchanting garden hidden behind a great stone wall. No one knew who had built the wall or why, but one thing was for certain ÔÇô nobody had ever seen what was behind it.

A little girl-named-Clara-boy-named-Peter lived in a village nearby. Fueled by curiosity and tales of magical creatures, she-he often dreamt of the wonders that the walled garden might hold. One day, unable to resist its lure any longer, she-he decided to find a way in.

As she-he approached the towering stone barrier, she-he noticed a tiny gap just big enough for her-him to peek through. The garden inside was bathed in a shimmering golden light, unlike any she-he had ever seen. To her-his amazement, in the center stood a magnificent tree with leaves that glittered as if they were made of starlight. And resting on one of its branches was a dove, glowing with the same luminous hue.

Before she-he could process this beautiful sight, the dove spoke to her-his in a voice as soft as the wind, "To enter the garden, one must share a pure and selfless desire."

Clara, with her Peter, with his heart pounding, whispered her-his wish, "I wish for everyone in my village to be happy and free from suffering."

The massive stone door, seemingly of its own accord, began to open. The luminous dove flew to Clara-Peter and rested on her-his shoulder. "Your wish is genuine, and so you may enter," it said.

Inside, the garden was more wondrous than Clara-Peter had ever imagined. Flowers sang in soft harmonies, and a gentle breeze carried the sweetest of

fragrances. Every step ~~she-he~~ took made the grass shimmer with colors she'd never seen before.

The dove explained that this was an Enchanted Garden, a place where one's purest wishes could come true. But, there was a catch. To make ~~her-his~~ wish a reality, ~~Clara-Peter~~ had to plant a seed from the magical tree in ~~her-his~~ village and care for it with unwavering love and dedication.

~~Clara-Peter~~ accepted the challenge. With the seed safely tucked in ~~her-his~~ pocket and the dove guiding her, ~~she returned to her he returned to his~~ village.

Years went by, and with ~~ClaraPeter~~'s love, the seed grew into a magnificent tree, similar to the one in the Enchanted Garden. With its growth, joy and happiness blossomed in the village like never before.

~~Clara's selfless wish not only transformed her village but also changed her. She became known as the Keeper of Joy, teaching future generations about love, compassion, and the magic of selfless wishes.~~

And so, in a village once shadowed by mystery, there stood a tree that bore witness to the pure heart of a ~~girl and her boy and his~~ luminous companion, reminding everyone that magic was always just a wish away.