The Barber Paradox in ℕaproche

Marcel Schütz

2025

The *Barber Paradox* is a puzzle illustrating Russell's Paradox, formulated by Bertrand Russell in 1919 [1, p. 355]:

> You can define the barber as "one who shaves all those, and those only, who do not shave themselves". The question is, does the barber shave himself?

In ℕaproche we can formalize this paradox as follows.

Signature. The barber is a person such that for any person P the barber shaves P iff P does not shave himself.

Theorem (Barber Paradox). The barber shaves himself iff the barber does not shave himself.

References

[1] Bertrand Russell. "The Philosophy of Logical Atomism". In: *The Monist* 29 (3 1919), pp. 345–380. DOI: 10.5840/monist19192937.

License

© Marcel Schütz (2024–2025). This work is licensed under a Creative Commons "Attribution-NonCommercial-ShareAlike 4.0 International" (CC BY-NC-SA 4.0) license.