Introduction to Logic, Part II, Chapter 9 by Patrick Suppes - notes and exercises

Dominik Lenda

April 6, 2021

1 Notes

Principle of extensionality - in axiomatic set theory
$\forall A \forall B(\forall X(X \in A \leftrightarrow X \in B) \rightarrow A = B)$

$\{1, 3, 5\} = \{5, 3, 1\}$

$\{1, 1, 3, 5\} = \{1, 3, 5\}$

$\{\text{Elizabeth II}\} \neq \text{Elizabeth II}$

Important difference between $A = A$ and $A \in A$ - the former is always true, while the latter is usually false. Standard systems of axiomatic set theory assert assert that set cannot be member of itself.