COMP0147: Discrete Mathematics Notes

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January 29, 2019

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Introduction

Notes are based on lecture notes by Professor Max Kanovich [Kan19] and discrete mathematics books [Ros12].

Chapter 1

Logic and Proofs

1.1 Propositional Logic

1.1.1 Propositions

Definition 1.1.1.1. A proposition is statement which is either *true* or *false* but not both.

Propositions can be denoted via uppercase letters, $P, Q, R, S, \ldots$.

Example 1.1.1.2. Let $P =$ "Computer Science is life".

Definition 1.1.1.3. The negation of a proposition P can be denoted as $\neg P$ or $\bar{P}$

Example 1.1.1.4. "Computer Science is not life" can be denoted as $\neg P$ or $\overline{P}$.

Bibliography

[Kan19] Max Kanovich. Discrete mathematics lecture notes. http://www.cs.ucl.ac.uk/people/M.Kanovich.html/, 2019. Accessed: January 29, 2019.

[Ros12] Kenneth H. Rosen. *Discrete Mathematics and its Applications*. The McGraw-Hill Companies, Inc, seventh edition, 2012.