

HKOI Training

$$ami \sim wkc$$

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Lecture 02

Propositional Logic

End

Lecture 02

Propositional Logic and Grammar in C

Lecture 02

Propositional Logic

- Proposition / Statement
- Proposition operators

End

Propositional Logic

Proposition / Statement

Lecture 02

Propositional Logic

● Proposition / Statement

● Proposition operators

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- $\left(\sqrt{x^2}\right)^2 = x$.

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- If n is a 5-digit square integer, then $n = 29929$.

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- If n is a 5-digit square integer, then $n = 29929$. (Yes)
- $x = 2$ only if $x^2 = 4$.

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¹We skip a bit by using “common sense” to determine whether a sentence is a proposition or not.

²To emphasize that we are not solving equation, we interpret the $=$ sign to be “always equal”.

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- I am lying. ⁴

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The following are not propositions or we won't discuss the following kind of sentences.

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- This statement is false.
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- The second unique child of God is a female.

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- (empty string)³
- This statement is false.
- I am lying. ⁴
- The second unique child of God is a female.

Actually, some of them can be considered as statements.

However, for simplicity, we shall avoid them at this moment.

³This is usually called the ϵ -string

⁴The Liar paradox

Proposition operators

Given some propositions, we can construct another proposition from them.

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