OCR Computer Science GCSE 2.4 - Boolean logic

Flashcards

What is Boolean logic?

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A logic system where values are either TRUE (1) or FALSE (0).

What are the four main Boolean operators in the course?

What are the three main Boolean operators in the course?

AND, OR, NOT

What does the AND operator do?

What does the AND operator do?

Returns TRUE only if both inputs are TRUE.

What is the truth table for AND?

What is the truth table for AND?

A	B	A AND B
0	0	0
0	1	0
1	0	0
1	1	1

What does the OR operator do?

What does the OR operator do?

Returns TRUE if either input is TRUE, including when both inputs are TRUE.

What is the truth table for OR?

What is the truth table for OR?

A	B	A OR B
0	0	0
0	1	1
1	0	1
1	1	1

What does the NOT operator do?

What does the NOT operator do?

Reverses the input: TRUE becomes FALSE, and FALSE becomes TRUE.

What is the truth table for NOT?

What is the truth table for NOT?

A	NOT A
0	1
1	0

What is a truth table used for?

What is a truth table used for?

To show all possible input combinations and their corresponding output for a logic expression.

How many outputs do logic gates have?

How many outputs do logic gates have?

1

Which logic gate is represented by this symbol?
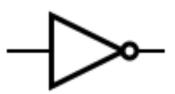
Which logic gate is represented by this symbol?

OR

Which logic gate is represented by this symbol?

Which logic gate is represented by this symbol?

NOT

Which logic gate is represented by this symbol?

Which logic gate is represented by this symbol?

AND

Which logic gate is represented by the ¬ symbol?

Which logic gate is represented by the ¬ symbol?

NOT

Which logic gate is represented by the ∨ symbol?

Which logic gate is represented by the ∨ symbol?

OR

Which logic gate is represented by the ∧ symbol?

Which logic gate is represented by the ∧ symbol?

AND

What is the order of operations in Boolean logic?

What is the order of operations in Boolean logic?

Brackets first, then NOT, then AND, then OR.

Give an example of a Boolean expression.

Give an example of a Boolean expression.

A AND (B OR NOT C)

Where is Boolean logic used in computing?

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In IF statements (selection), logic gates, search filters, and decision-making systems.

What is the output of: A = 1, B = 0 → A AND B?

What is the output of: A = 1, B = 0 → A AND B?

0

What is the output of: A = 1, B = 0 → A OR B?

What is the output of: A = 1, B = 0 → A OR B?

1

What is the output of: A = 1, NOT A?

What is the output of: A = 1, NOT A?

0