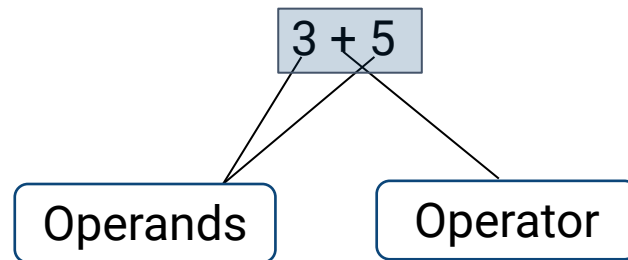


# Operators

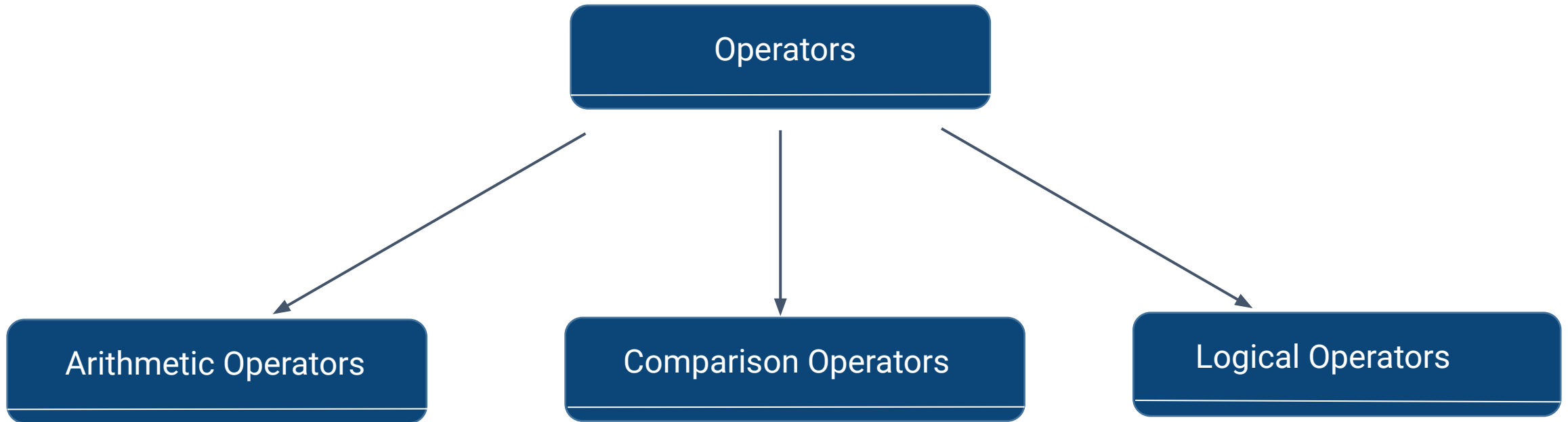
# Operators

- What are Operators?
- Symbols that represent mathematical or logical tasks.



Task	Symbol
Addition	+
Subtraction	-
Multiplication	*
Division	/

# Different Types of Operators



# Different Types of Operators

## Arithmetic Operators

- Addition +
- Subtraction –
- Multiplication \*
- Division /
- Modulo %
- Floor division //
- Exponent \*\*

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- Addition +
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**Addition**      ->  $3 + 5 + 6 = 14$

**Subtraction**      ->  $6 - 4 - 2 = 0$

# Different Types of Operators

## Arithmetic Operators

- Addition +
- Subtraction –
- Multiplication \*
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- Exponent \*\*

**Addition**      ->  $3 + 5 + 6 = 14$

**Subtraction**      ->  $6 - 4 - 2 = 0$

**Multiplication** ->  $3 * 5 * 6 = 90$

**Division**      ->  $5 / 3 = 1.67$

# Different Types of Operators

## Arithmetic Operators

- Addition +
- Subtraction –
- Multiplication \*
- Division /
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- Exponent \*\*

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**Subtraction**      ->  $6 - 4 - 2 = 0$

**Multiplication** ->  $3 * 5 * 6 = 90$

**Division**      ->  $5 / 3 = 1.67$

**Modulo**      ->  $5 \% 3 = 2$

**Floor Division** ->  $5 // 3 = 1$

# Different Types of Operators

## Arithmetic Operators

- Addition +
- Subtraction –
- Multiplication \*
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- Floor division //
- Exponent \*\*

**Addition**      ->  $3 + 5 + 6 = 14$

**Subtraction**      ->  $6 - 4 - 2 = 0$

**Multiplication** ->  $3 * 5 * 6 = 90$

**Division**      ->  $5 / 3 = 1.67$

**Modulo**      ->  $5 \% 3 = 2$

**Floor Division** ->  $5 // 3 = 1$

**Exponent**      ->  $5 ** 3 = 125$



# Different Types of Operators

## Comparison Operators

- Less than <
- Less than or Equal to <=
- Equal to ==
- Greater than >
- Greater than or equal to >=
- Not equal to !=

# Different Types of Operators

## Comparison Operators

- Less than <
- Less than or Equal to <=
- Equal to ==
- Greater than >
- Greater than or equal to >=
- Not equal to !=

Less than ->  $x < y$  -> ?

x	y
3	5

# Different Types of Operators

## Comparison Operators

- Less than <
- Less than or Equal to <=
- Equal to ==
- Greater than >
- Greater than or equal to >=
- Not equal to !=

Less than ->  $x < y$  -> True!

x	y
3	5

# Different Types of Operators

## Comparison Operators

- Less than <
- Less than or Equal to <=
- Equal to ==
- Greater than >
- Greater than or equal to >=
- Not equal to !=

Less than ->  $x < y$  -> ?

x	y
17	5

# Different Types of Operators

## Comparison Operators

- Less than <
- Less than or Equal to <=
- Equal to ==
- Greater than >
- Greater than or equal to >=
- Not equal to !=

Less than ->  $x < y$  -> False

x	y
17	5

# Different Types of Operators

## Comparison Operators

- Less than <
- Less than or Equal to <=
- Equal to ==
- Greater than >
- Greater than or equal to >=
- Not equal to !=

Less than ->  $x < y$

Less than or equal to ->  $x \leq y$

Equal to ->  $x == y$

x	y
17	5

# Different Types of Operators

## Comparison Operators

- Less than <
- Less than or Equal to <=
- Equal to ==
- Greater than >
- Greater than or equal to >=
- Not equal to !=

Less than ->  $x < y$

Less than or equal to ->  $x \leq y$

Equal to ->  $x == y$

Greater than ->  $x > y$

Greater than or equal to ->  $x \geq y$

Not Equal to ->  $x \neq y$

x	y
17	5

# Different Types of Operators

## Logical Operators

- and
- or
- not



# Different Types of Operators

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- and
- or
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**and** -> True only if both comparisons are True.

# Different Types of Operators

## Logical Operators

- and
- or
- not

**and** -> True only if both comparisons are True.

$x < 5$  and  $y > 8$  --> ?

x	y
3	7

# Different Types of Operators

## Logical Operators

- and
- or
- not

**and** -> True only if both comparisons are True.

`x < 5 and y > 8` --> True and False

x	y
3	7

# Different Types of Operators

## Logical Operators

- and
- or
- not

**and** -> True only if both comparisons are True.

`x < 5 and y > 8` --> True and False --> **False**

x	y
3	7

# Different Types of Operators

## Logical Operators

- and
- or
- not

**and** -> True only if both comparisons are True.

$x < 5$  and  $y > 8$  --> True and False --> **False**

**or** -> True if either of the comparisons are True.

$x < 5$  or  $y > 8$  --> True or False

x	y
3	7

# Different Types of Operators

## Logical Operators

- and
- or
- not

**and** -> True only if both comparisons are True.

$x < 5$  and  $y > 8$  --> True and False --> **False**

**or** -> True if either of the comparisons are True.

$x < 5$  or  $y > 8$  --> True or False --> **True**

x	y
3	7

# Different Types of Operators

## Logical Operators

- and
- or
- not

**and** -> True only if both comparisons are True.

$x < 5$  and  $y > 8$  --> True and False --> **False**

**or** -> True if either of the comparisons are True.

$x < 5$  or  $y > 8$  --> True or False --> **True**

**not** -> True if comparison is False and vice-versa.

not  $x < 5$  --> not True

x	y
3	7

# Different Types of Operators

## Logical Operators

- and
- or
- not

**and** -> True only if both comparisons are True.

$x < 5$  and  $y > 8$  --> True and False --> **False**

**or** -> True if either of the comparisons are True.

$x < 5$  or  $y > 8$  --> True or False --> **True**

**not** -> True if comparison is False and vice-versa.

not  $x < 5$  --> not True --> **False**

x	y
3	7



# Summary

## Arithmetic Operators

- Addition +
- Subtraction –
- Multiplication \*
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- Floor division //
- Exponent \*\*

## Comparison Operators

- Less than <
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## Logical Operators

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Thank You