

DATA SCIENCE COURSE TUTORIAL # 13

3.7 Operators

Operators are special symbols or keywords that perform operations on one or more operands (values or variables). They are used to manipulate data and perform calculations in programming.

Arithmetic Operators

used for performing basic mathematical operations such as addition, subtraction, multiplication, and division.

Operator	Description	Example	Result
+	Addition	5 + 3	8
-	Subtraction	5 - 3	2
*	Multiplication	5 * 3	15
/	Division	5 / 3	1.67
//	Floor Division	5 // 3	1
%	Modulus	5 % 3	2
**	Exponentiation	5 ** 3	125

Example:

```
a = 5
b = 3
print(a + b) # Addition
print(a - b) # Subtraction
print(a * b) # Multiplication
print(a / b) # Division
print(a // b) # Floor Division
print(a % b) # Modulus
print(a ** b) # Exponentiation
```

Comparison Operators

used for comparing two values and returning a Boolean result (True or False).

Operator	Description	Example	Result
==	Equal to	5 == 3	False
!=	Not equal to	5 != 3	True
>	Greater than	5 > 3	True

Operator	Description	Example	Result
<	Less than	5 < 3	False
>=	Greater than or equal	5 >= 3	True
<=	Less than or equal	5 <= 3	False

Example:

```
a = 5
b = 3
print(a == b) # Equal to
print(a != b) # Not equal to
print(a > b)  # Greater than
print(a < b)  # Less than
print(a >= b) # Greater than or equal
print(a <= b) # Less than or equal
```