

# Module-02, Basic Mathematics and Statistics

## Mathematics (calculus)

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# Slope

The most common numeric types in python are,

- The slope of line  
"Stands for integers, which are whole numbers without any decimal point."
- The average rate of change of a curve



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# Slope of the curve

- str: String type, e.g., `text = "Hello, World!"`  
"Stands for strings, which are sequences of characters. Strings are used to represent textual data."
- list: List type, e.g., `numbers = [1, 2, 3]`  
"Ordered collections that can contain elements of different types. Elements can be accessed by index, and lists are mutable (can be modified after creation)"
- tuple: Tuple type, e.g., `point = (x, y)`  
"Similar to lists but immutable, meaning their elements cannot be changed after creation"



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# The tangent line

- set: Set type, e.g., `unique-numbers = 1, 2, 3`  
"Represents an unordered collection of unique elements. Sets are useful for operations like intersection, union, and difference"
- dict: Dictionary type, e.g., `person = 'name': 'John', 'age': 30`  
"dict: Stands for dictionary, a collection of key-value pairs.  
Dictionaries allow you to access values using their associated keys"





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# Examples of tangent lines

- `bool`: Boolean type, e.g., `is-true = True`  
"Represents Boolean values, which can be either `True` or `False`. Booleans are often used for decision-making in control flow statements."
- `NoneType`: Represents the absence of a value, e.g., `no-value = None`  
"Represents the absence of a value or a null value. It is often used as a default return value for functions that do not explicitly return anything."



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Great Job  
Thank you

