**Installation**

To install NumPy, you can use the following command:

pip install numpy

**Key Features of NumPy**

* N-dimensional array object (ndarray): NumPy provides an efficient and flexible way to work with arrays.
* Broadcasting: Supports element-wise operations without explicit looping.
* Mathematical functions: Includes various mathematical operations such as trigonometric, statistical, and linear algebra functions.
* Linear algebra support: Provides efficient tools for matrix operations, eigenvalues, and singular value decomposition.
* Random number generation: Contains a suite of tools for generating random numbers.
* Integration with other libraries: Works seamlessly with libraries such as SciPy, Pandas, and Matplotlib.

**Usage Examples**

**Creating a 1D Array**

import numpy as np

arr = np.array([1, 2, 3, 4, 5])

print("1D Array:", arr)

**Creating a Multi-dimensional Array**

arr2d = np.array([[1, 2, 3], [4, 5, 6]])

print("2D Array:\n", arr2d)

**Performing Mathematical Operations**

arr = np.array([1, 2, 3, 4, 5])

print("Sum:", np.sum(arr))

print("Mean:", np.mean(arr))

print("Standard Deviation:", np.std(arr))

**Indexing and Slicing**

arr = np.array([10, 20, 30, 40, 50])

print("First element:", arr[0])

print("Last three elements:", arr[-3:])

**Reshaping an Array**

arr = np.arange(1, 10).reshape(3, 3)

print("Reshaped Array:\n", arr)