

list of commonly used methods and functions available in NumPy:

## Array Creation

- `numpy.array()`: Creates an array.
- `numpy.zeros()`: Creates an array of zeros.
- `numpy.ones()`: Creates an array of ones.
- `numpy.full()`: Creates an array filled with a specified value.
- `numpy.eye()`: Creates an identity matrix.
- `numpy.arange()`: Creates an array with a range of values.
- `numpy.linspace()`: Creates an array with linearly spaced values.
- `numpy.random.rand()`: Creates an array with random values from a uniform distribution.
- `numpy.random.randn()`: Creates an array with random values from a normal distribution.
- `numpy.random.randint()`: Creates an array with random integers.

## Array Manipulation

- `numpy.reshape()`: Reshapes an array.
- `numpy.ravel()`: Flattens an array.
- `numpy.transpose()`: Transposes an array.
- `numpy.concatenate()`: Joins arrays along an existing axis.
- `numpy.stack()`: Stacks arrays along a new axis.
- `numpy.split()`: Splits an array into multiple sub-arrays.
- `numpy.hsplit()`: Splits an array horizontally.
- `numpy.vsplit()`: Splits an array vertically.

## Array Operations

- `numpy.add()`: Element-wise addition.
- `numpy.subtract()`: Element-wise subtraction.
- `numpy.multiply()`: Element-wise multiplication.
- `numpy.divide()`: Element-wise division.
- `numpy.dot()`: Dot product of two arrays.
- `numpy.matmul()`: Matrix product of two arrays.
- `numpy.sqrt()`: Element-wise square root.
- `numpy.exp()`: Element-wise exponential.
- `numpy.log()`: Element-wise natural logarithm.
- `numpy.sin()`: Element-wise sine.
- `numpy.cos()`: Element-wise cosine.
- `numpy.tan()`: Element-wise tangent.
- `numpy.sum()`: Sum of array elements.
- `numpy.mean()`: Mean of array elements.
- `numpy.median()`: Median of array elements.
- `numpy.std()`: Standard deviation of array elements.
- `numpy.var()`: Variance of array elements.
- `numpy.min()`: Minimum value of an array.
- `numpy.max()`: Maximum value of an array.

- `numpy.argmin()`: Index of the minimum value.
- `numpy.argmax()`: Index of the maximum value.
- `numpy.sort()`: Sorts an array.
- `numpy.argsort()`: Returns the indices that would sort an array.

## Linear Algebra

- `numpy.linalg.inv()`: Computes the inverse of a matrix.
- `numpy.linalg.det()`: Computes the determinant of a matrix.
- `numpy.linalg.eig()`: Computes the eigenvalues and eigenvectors of a matrix.
- `numpy.linalg.svd()`: Computes the singular value decomposition.
- `numpy.linalg.qr()`: Computes the QR decomposition.
- `numpy.linalg.solve()`: Solves a linear matrix equation.
- `numpy.linalg.lstsq()`: Solves a linear least-squares problem.

## Random Sampling

- `numpy.random.seed()`: Sets the random seed.
- `numpy.random.shuffle()`: Shuffles the contents of a sequence.
- `numpy.random.choice()`: Generates a random sample from a given array.
- `numpy.random.binomial()`: Draws samples from a binomial distribution.
- `numpy.random.normal()`: Draws samples from a normal distribution.
- `numpy.random.uniform()`: Draws samples from a uniform distribution.

## Input and Output

- `numpy.load()`: Loads arrays from a binary file.
- `numpy.save()`: Saves arrays to a binary file.
- `numpy.loadtxt()`: Loads data from a text file.
- `numpy.savetxt()`: Saves data to a text file.

## Utilities

- `numpy.unique()`: Finds the unique elements of an array.
- `numpy.isnan()`: Tests for NaNs.
- `numpy.isinf()`: Tests for positive or negative infinity.
- `numpy.where()`: Returns elements chosen from `x` or `y` depending on `condition`.
- `numpy.clip()`: Clips (limits) the values in an array.
- `numpy.diff()`: Calculates the n-th discrete difference along a given axis.
- `numpy.meshgrid()`: Generates a mesh grid.
- `numpy.fromfunction()`: Constructs an array by executing a function over each coordinate.