A comprehensive overview of various **NumPy** functions available for array manipulation, mathematical operations, and more.

Array Creation Functions

Function	Description
`np.array()`	Creates an array from a regular Python list or tuple.
`np.zeros()`	Returns a new array of given shape and type, filled with zeros.
`np.ones()`	Returns a new array of given shape and type, filled with ones.
`np.empty()`	Returns a new array of given shape and type, without initializing entries.
`np.arange()`	Returns evenly spaced values within a given interval.
`np.linspace()`	Returns evenly spaced numbers over a specified interval.
`np.logspace()`	Returns numbers spaced evenly on a log scale.
`np.eye()`	Creates an identity matrix.
`np.identity()`	Returns the identity array.
`np.full()`	Returns a new array of given shape filled with a specified value.

Array Manipulation Functions

Function	Description
`np.reshape()`	Gives a new shape to an array without changing its data.
`np.ravel()`	Returns a contiguous flattened array.
`np.transpose()`	Permutes the dimensions of an array.
`np.concatenate()`	Joins a sequence of arrays along an existing axis.
`np.split()`	Splits an array into multiple sub-arrays.
`np.tile()`	Constructs an array by repeating A the number of times given by reps.

Mathematical Functions

Function	Description
`np.add()`	Perform element-wise addition.
`np.subtract()`	Perform element-wise subtraction.
`np.multiply()`	Perform element-wise multiplication.
`np.divide()`	Perform element-wise division.
`np.sqrt()`	Returns the non-negative square-root of an array, element-wise.
`np.sin()`	Trigonometric sine, element-wise.
`np.cos()`	Trigonometric cosine, element-wise.
`np.tan()`	Trigonometric tangent, element-wise.
`np.exp()`	Calculates the exponential of all elements in the input array.
`np.log()`	Natural logarithm, element-wise.
`np.power()`	First array elements raised to powers from second array, element-wise.

Statistical Functions

Function	Description
`np.mean()`	Computes the arithmetic mean along the specified axis.
`np.median()`	Computes the median along the specified axis.
`np.std()`	Computes the standard deviation along the specified axis.
`np.var()`	Computes the variance along the specified axis.
`np.min()`	Returns the minimum along a specified axis.
`np.max()`	Returns the maximum along a specified axis.
`np.argmin()`	Returns the indices of the minimum elements along an axis.
`np.argmax()`	Returns the indices of the maximum elements along an axis.

Input/Output Functions

Function	Description
`np.save()`	Saves an array to a binary file in NumPy `.npy` format.
`np.load()`	Loads an array from a binary file in NumPy `.npy` format.
`np.savetxt()`	Saves an array to a text file.
`np.loadtxt()`	Loads an array from a text file.

Linear Algebra Functions

Function	Description
`np.dot()`	Dot product of two arrays.
`np.linalg.inv()`	Compute the (multiplicative) inverse of a matrix.
`np.linalg.det()`	Compute the determinant of an array.

Logical Functions

Function	Description
`np.all()`	Test whether all array elements along a given axis evaluate to True.
`np.any()`	Test whether any array element along a given axis evaluates to True.