



coding_knowledge
Harry



Numpy

CheatSheet



Swipe →



coding_knowledge
Harry

Array Creation

- **`np.array([1, 2, 3])`**: Create a 1D array from a list.
- **`np.zeros((3, 3))`**: Create a 3x3 array filled with zeros.
- **`np.ones((2, 2))`**: Create a 2x2 array filled with ones.
- **`np.arange(0, 10, 2)`**: Generate values from 0 to 10 with a step of 2.
- **`np.random.rand(3, 3)`**: Generate a 3x3 array of random values between 0 & 1.
- **`np.eye(4)`**: Create a 4x4 identity matrix.
- **`np.full((2, 2), 7)`**: Create a 2x2 array filled with the value 7.
- **`np.linspace(0, 10, 5)`**: Create 5 equally spaced values between 0 and 10.

Swipe →



coding_knowledge
Harry

Array Manipulation

- **arr.reshape((rows, cols))**: Reshape an array into the specified dimensions.
- **arr.flatten()**: Convert a multi- dimensional array into a 1D array.
- **np.concatenate([arr1, arr2], axis=0)**: Concatenate arrays along a specific axis.
- **arr.T**: Transpose the array (swap rows and columns).
- **np.vstack([arr1, arr2])**: Stack arrays vertically.
- **np.hstack([arr1, arr2])**: Stack arrays horizontally.
- **np.expand_dims(arr, axis=0)**: Add a new dimension to the array.
- **arr.swapaxes(0, 1)**: Swap the first and second axes of an array.

comment "num" and get it's
complete pdf in your DM 📌

Swipe →



coding_knowledge
Harry

Indexing & Filtering

- **`arr[1, 2]`**: Access an element at row 1 and column 2.
- **`arr[1, :]`**: Select all columns from row 1.
- **`arr[arr > 5]`**: Filter elements greater than 5.
- **`np.where(arr > 5, 1, 0)`**: Replace elements based on a condition.
- **`np.nonzero(arr)`**: Get the indices of non-zero elements.
- **`arr[0:2, :] = 10`**: Set the first two rows to 10.
- **`arr[:, 1:3]`**: Slice columns from index 1 to 3.
- **`arr[arr % 2 == 0]`**: Select even elements in the array.

Swipe →



coding_knowledge
Harry

Statistics

- **np.mean(arr):** Compute the mean of the array.
- **np.median(arr):** Compute the median of the array.
- **np.std(arr):** Compute the standard deviation of the array.
- **np.sum(arr):** Calculate the total sum of all elements.
- **np.min(arr), np.max(arr):** Find the minimum and maximum values.
- **np.percentile(arr, 50):** Compute the 50th percentile.
- **np.var(arr):** Compute the variance of the array.
- **np.corrcoef(arr1, arr2):** Calculate the correlation coefficient between two arrays.

comment "num" and get it's
complete pdf in your DM 

Swipe →



coding_knowledge
Harry

Linear Algebra

- **`np.dot(arr1, arr2)`**: Perform the dot product of two arrays.
- **`arr1 @ arr2`**: Perform matrix multiplication.
- **`arr.T`**: Compute the transpose of the array.
- **`np.linalg.inv(arr)`**: Compute the inverse of a square matrix.
- **`np.linalg.det(arr)`**: Compute the determinant of a matrix.
- **`np.linalg.eig(arr)`**: Find the eigenvalues and eigenvectors.
- **`np.linalg.svd(arr)`**: Compute the Singular Value Decomposition of a matrix.
- **`np.linalg.norm(arr)`**: Compute the Frobenius norm of a matrix.

Swipe →

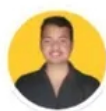


coding_knowledge
Harry

Data Handling

- **np.unique(arr):** Return the unique elements of the array.
- **np.sort(arr):** Sort the array elements in ascending order.
- **np.argsort(arr):** Return the indices that would sort the array.
- **np.count_nonzero(arr):** Count the number of non-zero elements.
- **np.nan_to_num(arr):** Replace NaN values with zero or specified value.
- **np.isnan(arr):** Identify which elements are NaN.
- **np.delete(arr, 2):** Delete the element at index 2.
- **np.insert(arr, 1, 10):** Insert the value 10 at index 1.

Swipe →



coding_knowledge
Harry

Saving & Loading

- **`np.save('file.npy', arr)`**: Save an array to a binary file.
- **`np.load('file.npy')`**: Load an array from a binary file.
- **`np.savetxt('file.txt', arr)`**: Save an array to a text file.
- **`np.loadtxt('file.txt')`**: Load an array from a text file.
- **`np.savez('file.npz', arr1=arr1, arr2=arr2)`**: Save multiple arrays in one file.
- **`np.load('file.npz')`**: Load multiple arrays from a .npz file.
- **`np.savez_compressed('file.npz', arr=arr)`**: Save arrays in compressed .npz format.
- **`np.loadtxt('file.txt', delimiter=',')`**: Load an array from a CSV file.

comment "num" and get it's
complete pdf in your DM 📌