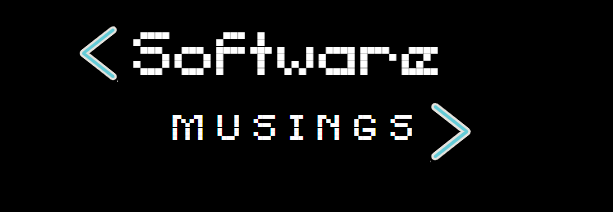
**NUMPY CHEATSHEET**



[](https://www.softwaremusings.dev/)

*np – alias of Numpy*

*arr - A Numpy array object*

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| **Importing & Exporting Data** | |
| **np.loadtxt(‘file.txt’)** | From a Text file |
| **np.genfromtxt(‘file.csv’, delimiter=’,’)** | From a CSV File |
| **np.savetxt(‘file.txt’, arr, delimiter=’ ’)** | Writes to a Text File |
| **np.savetxt(‘file.csv, arr, delimiter=’ , ’)** | Writes to a CSV File |

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| **Creating Arrays** | |
| **np.array([1,2,3])** | Creates a One-dimensional Array |
| **np.array([(1,2,3),(4,5,6)])** | Creates a Two-dimensional Array |
| **np.zeros(3)** | 1D array of length 3 with all values as 0 |
| **np.ones((3,4))** | 3x4 array with all values 1 |
| **np.random.randint(5, size=(2,3))** | 2x3 array with random integers between 0-4 |
| **np.arange(0,10,3)** | Array of values from 0 to less than 10 with step 3 (Example: [0,3,6,9]) |
| **np.linspace(0,100,6)** | Array of 6 evenly divided values from 0 to 100 |

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| **Statistics** | |
| **np.mean(arr, axis=0)** | Returns mean along specific axis |
| **arr.sum()** | Returns sum of arr |
| **arr.min()** | Returns minimum value of arr |
| **arr.max(axis=0)** | Returns maximum value of specific axis |
| **np.var(arr)** | Returns the variance of array |
| **np.std(arr, axis=1)** | Returns the standard deviation of specific axis |

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| **Add & remove** | |
| **np.append(arr, values)** | Appends values to end of arr |
| **np.insert(arr, 2, values)** | Inserts values into arr before index 2 |
| **np.delete(arr, 3, axis=0)** | Deletes row on index 3 of arr |
| **np.delete(arr, 4, axis=1)** | Deletes column on index 4 of arr |

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| **IIndexing & Slicing** | |
| **arr[2]** | Returns the element at index 2 |
| **arr[2,4]** | Returns the 2D array element on index [2][4] |
| **arr[1]=6** | Assigns array element on index 1 the value 6 |
| **arr[0:3]** | Returns the elements at indices 0,1,2 (On a 2D array: returns rows 0,1,2) |
| **arr[arr < 5]** | Returns array elements smaller than 5 |
| **arr[0:3,4]** | Returns the elements on rows 0,1,2 at column 4 |

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| **Math** | |
| **np.add(arr1, arr2)** | Elementwise add arr2 to arr1 |
| **np.subtract(arr1, arr2)** | Elementwise subtract arr2 from arr1 |
| **np.sin(arr)** | Sine of each element in the array |
| **np.log(arr)** | Natural log of each element in the array |
| **np.ceil(arr)** | Rounds up to the nearest int |
| **np.round(arr)** | Rounds to the nearest int |
| **np.power(arr1, arr2)** | Elementwise raise arr1 raised to the power of arr2 |
| **np.abs(arr)** | Absolute value of each element in the array |
| **np.multiply(arr1, arr2)** | Elementwise multiply arr1 by arr2 |
| **np.divide(arr1, arr2)** | Elementwise divide arr1 by arr2 |