Cheatography

NumPy Cheat Sheet Cheat Sheet

by mdesai96 via cheatography.com/95163/cs/20869/

NumPy array basics

`np.arr ay( [1, 2,3])`	Creates a 1D array with values 1, 2, 3. (shape 1x3)
`np.arr ay( [(1 ,2,3), (4,5,6)])`	Creates 2D array of shape 2x3 with values 1,2,3,4,5,6
`np.arr ay( [[( 1,2,3), (4,5,6)], [(7,8,9), (10,11 ,12)]])`	Creates a 3D array with shape 2x2x3
`np.zer os(3,4)`	Creates a 3x4 array of zeros
`np.arr ang e(1 ,60,5)`	Creates a 1D array of values 1 through 60 at steps of 5
`a.resh ape (2,3,4)`	Reshapes array `a` into an array of shape 2x3x4
`a.shape`	To get the shape of the array `a`

Subsetting

`a[0]`	Gets the 0th element in 1D array `a`
`b[0,0]`	Gets the 0th element in 2D array `b`
`c[0,0,0]`	Gets the 0th element in 3D array `c`
`c[9,0,0]`	Gets the element which is the 0th element in the 0th row in the 9th depth

Slicing arrays

1D arrays	
`a[:]`	Selects everything
`a[2:5]`	Selects the 2nd through the 4th rows (does not include the 5th row)
2D arrays	
`b[:,:]`	Selects all rows and all columns
`b[:,0]`	Selects all rows, and the zeroth column
`b[0,:]`	Selects the zeroth row, and all columns in that row
`b[0:2,:]`	Selects the zeroth and first row, but NOT the second. It includes all the columns in that row
`b[0:2,0:2]`	Selects the zeroth and first row, and the zeroth and first column
3D arrays	
`c[:,:,:]`	Selects all rows and columns on all depths
`c[0,:,:]`	Selects the everything in the first depth
`c[:,0,:]`	Selects the first row of each depth
`c[:,:,0]`	Selects the first column of each depth

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