

NumTalk v0.1

As in NumPy main object of NumTalk is multidimensional array.

It is a table of elements ,all of numbers types , indexed by a tuple of positive integers.

Dimensions are called axes. The number of axes is rank.

For example, the coordinates of a point in 3D space [1, 2, 1] is an array of rank 1, because it has one axis. That axis has a length of 3. In example pictured below, the array has rank 2 (it is 2-dimensional).

The first dimension (axis) has a length of 2, the second dimension has a length of 3.

```
[[ 1., 0., 0.],
```

```
 [ 0., 1., 2.]]
```

NumTalk array class is called "ntArray"

1. Main attributes is:

- dimensions
- shape
- size
- data

2. Main functions:

- creation
- printing object in right format
- creation array specified arrays (quick creation of zero arrays , fill with same values e.t.c.
- `arrange (min,max,step)` - create array filled with values in range with step
- `linspace` - similar to `arrange` but we pass number of expected values instead of step
- random
- `reshape` - convert array to array of another shape example:
 `a = ntArray.arrange(0,6,1):[0 1 2 3 4 5 6]`
 `b = ntArray.arrange(0,6,1).reshape(2,3): [[0 1] [2 3] [4 5]]`
- arithmetic operations
- comparison (each element and is equal)
- sorting
- subsetting, slicing, indexing
- transposing
- concatenate
- Basic Linear Algebra
- Basic Statistics

Visualization of data using ntArray , some basic graphs, statistics data representations (bars, histogram e.t.c)

Complex numbers in future.