## Numpy

## Objective: Understand the usage of numpy module of python.

List of Lab Activities:

a. Convert numbers =[1, 2.0, 3] to numpy array and convert all elements to string type.
b. Create a 2 D array through list and set dtype as int32
c. Find the rows and columns of the 2d array created in part b
d. Print 10 random numbers between 1 and 100.

Q2.

a) Write a NumPy program to get help on the add function
b) Write a NumPy program to test whether none of the elements of a given array is zero
c) Write a NumPy program to test whether any of the elements of a given array is non-zero
d) Write a NumPy program to generate an array of 15 random numbers from a standard normal distribution

## EXPERIMENT-15: Pandas

## Objective: Understand the usefulness of pandas module in python

List of Lab Activities:

Q1. Refer the given excel file and perform various operations using pandas library:

| | | | | | |
|---|---|---|---|---|---|
| 0 | GOOGL | 27.82 | 87 | 845 | larry page |
| 1 | WMT | 4.61 | 484 | 65 | n.a. |
| 2 | MSFT | -1 | 85 | 64 | bill gates |
| 3 | RIL | not available | 50 | 1023 | mukesh ambani |
| 4 | TATA | 5.6 | -1 | n.a. | ratan tata |

a. Read the above excel file in python.
b. How do I write this file to a new file "new.csv"?
c. Include column names in this file. Use 'ticker', 'eps', 'revenue', 'price', 'people' as column names.
d. Convert all not available or n.a. values to NAN and also convert negative revenues to NAN because revenues can never be negative.
e. Fill NAN values using a suitable approach.
f. Write a function to change n.a value appearing in WMT to Sam Walton