CS 6103D Software Systems Laboratory
Assignment 2b: Python: Using Pandas & Numpy Modules

Learning Objective

- Working with dataframes
- Learn to use pandas, numpy modules
- Learn to use map(), apply() functions

Problem Description

The 'Rainfall.csv' file uploaded has the details of rainfall received in Indian states from 1901 to 2015. Use the dataset to program the following.

1. Read the file into *dataframe* object

2. Populate the missing values by finding the corresponding state-wise average rainfall

3. Group the June-September rainfall as *South-West Monsoon* and October-December as *North-East Monsoon*. Add these new columns to the dataframe.

4. Add an additional column which has the region code - NORTH/EAST/WEST/SOUTH - Map the states to each region. Use Apply() function here.

5. Create a new dataframe which contains the aggregated region wise *SouthWest Monsoon* and *NorthEast Monsoon* from 1901 to 2015

6. Create new columns *RAINFALL-PREV1*, *RAINFALL-PREV2* and *RAINFALL-PREV3* which stores the corresponding previous 3 years rainfall values in the same row.