Lab Assignment 1

Part 1: Python Basic

1. Write a command to get the Python version you are using. 2. Write a command or program to locate Python site-packages. 3. Write a command or program to get the path and name of the file that is currently executing.
4. Write a python program to randomly generate two matrices of size [2x3 and 3x2] and do the matrix multiplication using the two generated matrices. (Say A = BC)
5. Use a for loop to implement the above question five times and thereafter take the average of all the five matrices and display the result.
6. Write a program to transfer the matrix (generated in question 5) to the CSV file and then read the same matrix and display the transposition of it.
7. Write a program to find the mean, mode, and median of the above-mentioned matrix.
8. Write a program to print the upper triangle of the matrix. 9. Write a Python program to read specific columns of a given CSV file and print the content of the columns. (Column number should be given by the user)
10. Write a Python program to replace a user-defined number present in the CSV file by the character 'A'.

Part 2: NumPy Basic

1. Write a NumPy program to create an array of 10 zeros,10 ones, 10 fives
2. Write a NumPy program to create an array of all the even integers from 10 to 50
3. Write a NumPy program to generate a random number between 0 and 1
4. Write a NumPy program to save the matrix (generated in question 3) to a text file and load it

Part 3: Pandas Excel

1. Write a python program to read an image and save the image as a matrix to a .csv file using pandas
2. Write a program to import excel data from the .csv file (generated in question 1) by excluding the last row and last column
3. Write a Pandas program to create the today's date

Part 4:

1. Create a mini calculator to know the age of a person after putting the range (i.e. date of birth and current date)