

## Programming with Python

### Practice Questions

#### Que 1. Email Address Validator

Write a function named `validate()`, which takes an email address and returns `True` if it is valid else it returns `False`, to check valid email address based on the following criteria:

- A valid email address is composed of a username, domain name, and extension assembled in this format:  
`username@domain.extension`
- The username starts with an English alphabetical character, and subsequent characters consist of one or more of the following: alphanumeric characters and special characters (- (hyphen), \_ (underscore) or . (dot)) but only one special character at a time.
- The domain and extension contain only English alphabetical characters.
- The extension can be only 2 or 3 characters in length.

File `email_addresses.txt` contains email addresses to be validated. Read email addresses from this file and pass them one by one to the function to validate. Write valid email addresses to another file.

**Que 2. File `zomato_blr_data.csv` contains data about restaurants in Bengaluru from Zomato website. Based on this data answer the following questions using pandas dataframe.**

1. How many Domino's Pizza outlets are in Bengaluru?
2. Which location in Bengaluru have the highest number of restaurants with North Indian cuisine?
3. Which are the highest-rated restaurants in Whitefield?

### **Que 3. Bollywood Movie Names Antakshari**

The word “Antakshari” is derived from two Sanskrit words: “antya” meaning end & “akshar” meaning the letter of the alphabet, the term means “the game of the ending letter”.

The text file "movie\_names.txt" contains the names of 216 Bollywood movies. Take all the movie names in a python list and generate a sequence(list) of movie names where the subsequent name starts with the final letter of the preceding name. In this output list, movie names should not be repeated and it should contain at least 200 movie names.

Use movie name 'shershaah' as starting name.

**Que 4. File "airports.csv" contains data on airports around the world. Load this file in a pandas dataframe and based on this data answer the following questions:**

1. Find out the country in each continent having the highest number of airports?
2. Which state in India has the highest number of Airports?
3. Which states in India have more than one large airport?