**Assignment 1:**

**Description:** Consider the file *weblog.txt*. It is a log-file on a network. Each line in the file contains information about IP Address, Date & Time, submit/upload, URL, Protocol version, Status. Detailed description is as below:

* IP Address: IP address of the machine
* Date & Time: Date and Time at which event/action has occurred.
* Submit/upload: GET indicates requesting the server for data, POST indicates trying to upload the data.
* URL: Name of the URL
* Protocol version: HTTP/1.1 indicates version of the HTTP protocol
* Status: Code indicating status of HTTP action.
  + 200: Success
  + 302: Requested resource has been temporarily moved
  + 404: File Not Found
  + 304: File Not Modified (means, no update is required)
  + 206: Partial content has been processed

**Tasks:**

1. Create a dictionary *IP\_Count* where each key-value pair is IP-Address and its frequency in the entire file.

For example, {“10.128.2.1”: 10, “10.131.2.1”: 12 } indicates the IP 10.128.2.1 has appeared 10 times, 10.131.2.1 appeared 12 times in the file and so on.

1. Create a dictionary *Daily\_Stats* where each key-value pair is Date (string containing only the date, without time) and number of actions carried out on that day.

For example, {“ 29/Nov/2017”: 15, “20/Dec/2017”: 13} indicates there are 15 actions happened on 29th November 2017, 13 actions on 20th December etc.

1. Display the URL which has been accessed (either for submit or upload) for most number of times.
2. Display the total count of HTTP GET requests and HTTP POST requests.
3. Create a dictionary *Status\_Code* where key is the status code, and value is a tuple consisting of a string stating meaning of the code and a number indicating the frequency of that code in the file.

For example, {200:(“Success”, 53), 404: (“File Not Found”,4)} indicates 200 is the code to indicate ‘Success’, and there are 53 such transactions.

1. Create a histogram (list of tuples) indicating number of actions carried out in an hour of a day. For example [(8, 12), (15, 3)] indicates, there are 12 transactions between 8am to 8:59am, there are 3 transactions between 3pm to 3:59pm (because 15 means 3pm).