

## **Implementation of HTTP based website downloader using Socket Programming**

1. In this assignment you would be implementing your own HTTP based website downloader using Socket Programming. (Given the list of objects of the website in a text file - You can do that manually by going through the index.htm)
  - a. Step 1: Implement a simple HTTP based downloader to download a given object specified by an URL. Use a TCP connection and send a HTTP request to download the file (Create the HTTP request as per the RFC so that the server understand). You should not use any APIs for HTTP. (10 Points)
  - b. Step 2: Write your downloader program to download the entire website using the program given in Step 1 using non-persistent HTTP. You would create as many TCP connections as the number of objects in sequence. At any given point of time only one TCP connection between the client and server. (5 Points)
  - c. Step 3: Write your downloader program to download the entire webpage using persistent HTTP without parallel TCP connections. You would create 1 TCP connection and download all the objects one after other on the same TCP connection. (5 Points)
  - d. Step 4: Write your downloader program to download the entire webpage using persistent HTTP with parallel TCP connections. Create 6 parallel TCP connections and schedule the requests on these TCP connections to download the entire website. The requests should be sent on a TCP connection as and when it completes the earlier request. (5 Points)
  - e. Step 5: Download 3 websites that have at least 25 objects and download using the downloader program created in Step 2 to Step 4 and compare the performance in terms of time to download the website. For each website repeat the experiment for 10 times and provide the average time to download in a table. (5 Points)