Department of Computer Science
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Assignment 1

Programming Assignment (Proxy Server)

Due Date: March 29, 2021 (Demos)

Guidelines:

- **Any form of Plagiarism will result in Straight F in the Course.**
- **This is a high weightage group (maximum 2 members) Assignment and grading would be based on completeness and clarity of your code. This means you have to write neat code with lots of comments.**
- **This assignment has hard deadline and any late submissions won't be accepted.**

Overview

In this assignment, you will implement a web proxy that passes requests and data between multiple web clients and web servers, **concurrently** (fork a process for each new client request). When you're done with the assignment, you should be able to configure your web browser to use your personal proxy server as a web proxy that is capable of handling the following tasks.

1. HTTP communications between client and server.
2. HTTPs communications between client and server.
3. Caching of popular content using at least two scheduling algorithms.
4. Content filtering (filtering rules should be configurable via admin console).

References:

- Guide to Network Programming Using Sockets
  - http://beej.us/guide/bgnet/
- HTTP Made Really Easy- A Practical Guide to Writing Clients and Servers
  - http://www.jmarshall.com/easy/http/
- Wikipedia page on fork()
  - https://en.wikipedia.org/wiki/Fork_(system_call)