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## SE375 2021-2022 SUMMER

### Laboratory Assignments #5 and #6.

29 August 2022

### Goal: Client-Server based Super Store Program

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#### Part 1:

Consider the Super Store application. We will make this a client server program. There will be 12 clients and 1 server. Therefore, the server must be a multi-threaded program. The server will wait for 12 connections from client applications. The server will send each client a file name to work on. The clients will perform the following operations:

1. Connect to the server
2. Receive the file name
3. Read the contents of the file
4. while (there are more products)
  - a. Calculate in-store and online sales
  - b. Send product name (string), in-store sales (integer) and online sales (integer) to the server

Note: It is up to you to send the each product data one by one or send it as a whole.

The server will do these actions:

1. while (true)
  - a. Accept a client connection
  - b. Assign it to a thread
    - i. Send a file name
    - ii. Get product name and in-store online sales for all the products
    - iii. Update the shared yearly sales data structure

The server and client will use a TCP connection

#### Part 2

Another client will send a query to the server to responds. This query would be of this format:

<product name>;<sale type>

Examples:

A; in-store	Send yearly in-store total for product A.
B; online	Send yearly online total for product B.
X; in store	Send total in-store sales for all products

The server will send an integer value back to the client. The client will display the results.

This time the server and client will use a UDP connection.