

VI Semester B.Tech. (CSE) | Winter Semester (2023-2024)

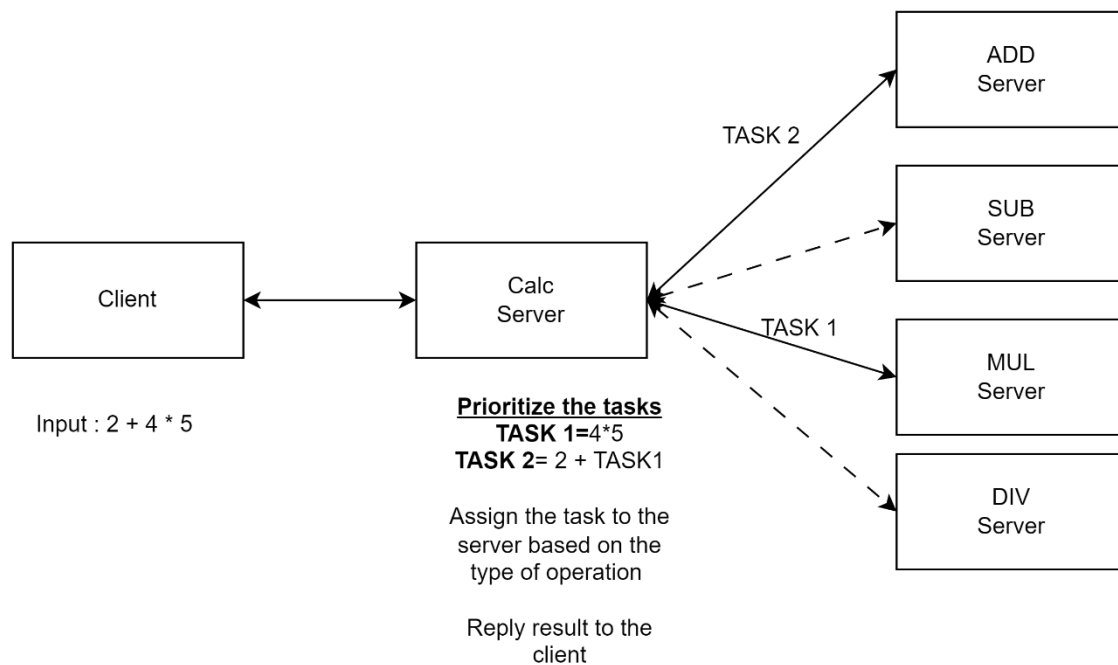
Computer Networks Lab (CSC307)

List of experiments for 30th Jan 2024:

1. Implement a basic socket program for remote file copying between a client and a server. The server should be able to receive a file from the client and save it to a specified directory. The client, on the other hand, should be able to send a local file to the server. Consider handling possible errors, such as file not found and permission issues.

Provide a sample demonstration by copying a text file from the client to the server and vice versa. Your implementation should be able to handle files of varying sizes

2. Design and implement a multi-server calculation system using socket programming. Refer to the figure below as the basis for your system architecture. Develop a client socket that assigns tasks involving simple arithmetic equations (e.g., $2 + 4 * 5$) to the server cluster.



The calculation server (Calc Server) serves as the central server responsible for receiving inputs from the client. Upon receiving an input equation, the Calc Server should prioritize the operations based on operator precedence (e.g., multiplication and division before addition and subtraction). Subsequently, the Calc Server will assign tasks to specialized servers: ADD Server, MUL Server, SUB Server, and DIV Server, each dedicated to a specific arithmetic operation.

Tasks should be distributed efficiently among the respective servers in serial manner. Once all servers complete their assigned tasks, the Calc Server will consolidate the results based on the original input equation and reply to the client with the final result.

Your implementation should consider effective communication between the client and servers and proper synchronization to ensure accurate results. Additionally, handle potential errors or invalid inputs gracefully.

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