

1. H1 is getting two operands and the operator. According to the operator, I'm connecting the port to specified ports of add or sub or mul or idiv. To create TCP connection, first the socket is created, and then is connected to the provided port. As the hard coding of IP address and port number of h1 is not allowed, I'm sending the these inside the packet, and will travel through h3. My TCP packet is containing the two operands and IP address and port number, separated by space, and is sent to h2.

Now I have to create four TCP servers at h2 for ADD, SUB, MUL and IDIV. To create TCP server, first the socket is created, then it is binded and it put on listening and accepting. The server would be continuously accepting hence the accepting step is put under while loop. Then it receives the buffer from h1, from where the two operands are separated and the operation is performed between the two as per the server. If the receiving server is ADD, then add operation is performed, similarly for other servers.

The result of the operation is printed and is ready to send to h3. Then I created the UDP socket to send to h3. What is sent to h3 is the result of the operation performed and the IP address and port number h1 is listening on.

First created a UDP socket for receiving buffer from h2. The server on h3 would be continuously receiving hence it is put in while loop. What I'm receiving on h3 is an integer to be squared and the IP address and port number of h1. At h3 I'm extracting the integer and IP address and Port number, squaring the integer and creating a char array to store it. Then a TCP client is created in h3 which would send the squared result to h1. For that the IP address and port number I received is used. Similarly, a TCP server is created on h1 to receive the final result from h3.