Question 1

The server.c and client.c pair of code that we discussed in class make use of FIFO and can only transit characters from the client side to the server side. Modify the source code so that every time the server side receives information from the client side, the server side send an acknowledgement to the client side to display.

For example, the user at the client side types a letter “a”, and the server side displays the letter “a”, and then the server side sends the sentence “I received your message” to the client side so that the client side displays “I received your message” in its console.

The source code server.c and client.c are posted on BB under week 11 under the names server-posted.c and client-posted.c.

Question 2

Write a program that uses two FIFOs to enable bidirectional communication between a parent and child process. The parent process should loop reading a block of text from standard input and use one of the pipes to send the text to the child, which converts it to uppercase and sends it back to the parent via the other pipe. The parent reads the data coming back from the child and echoes it on standard output before continuing around the loop once more.

Question 3

Simulate file transfer between two Unix/Linux machines over the internet using sockets.

a. Write a server program, the server first askes the client what file you want.
b. The client program replies with the name it wants (for simplicity, assume the client knows the name of the file on the server that it wants).
c. The server sends the file over to the client, and the client save it to a file on its local drive.