BTN415 Test 1 - Programming

Design a proxy server to bypass traffic from one client to another across many servers like the below diagram:

Diagram

Description automatically generated

## PART A – [2.5 marks]

## Design and test the TCP/IP protocol server and client with the IP address 127.0.0.1 (localhost) and port 27010. Note that the client and server should be flexible enough to send and receive messages in any order*.*

Graphical user interface

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

A screenshot of a computer

Description automatically generated with medium confidence

## PART B – [2.5 marks]

## Design and test the UDP/IP protocol server and client with the IP address 127.0.0.1 (localhost) and port 27010. Note that the client and server should be flexible enough to send and receive messages in any order*.*

Graphical user interface

Description automatically generated

Graphical user interface

Description automatically generated

## PART C – [5 marks]

## Modify the servers of TCP and UDP to pass the message from TCP server after receiving from TCP-Client to UDP server and the UDP server to UDP client.

A picture containing text, screenshot, computer, indoor

Description automatically generated

# SUBMISSION INSTRUCTIONS

You need to submit UNZIPPED following files:

1. Part1\_tcpserver.c
2. Part1\_tcpclient.c
3. Part2\_udpserver.c
4. Part2\_udpclient.c
5. Part3\_tcpserver.c
6. Part3\_udpserver.c
7. PDF/Word File for all the screenshots

NOTE: Below is the Rubric for Midterm test.

|  |  |  |
| --- | --- | --- |
| Parts | Code | Screenshot for the output |
| Part1: TCP server | 1% | 0.5% |
| Part1: TCP Client | 0.5% | 0.5% |
| Part2: UDP server | 1% | 0.5% |
| Part2: UDP Client | 0.5% | 0.5% |
| Part3: TCP server | 1.5% | 1.5% |
| Part3: UDP Server | 1% | 1% |