Name: Eveniezer Yohans
COIS 3040 Assignment 1
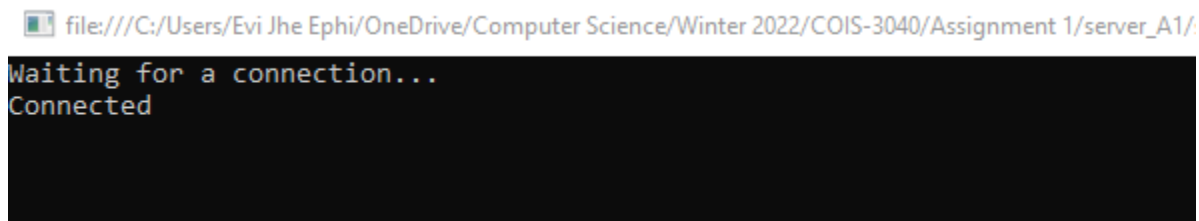
A Testing Document

Server terminal waiting for a connection

Server terminal when client connected

Client terminal

User input on client terminal- "what is life?" And the server responds on the client terminal

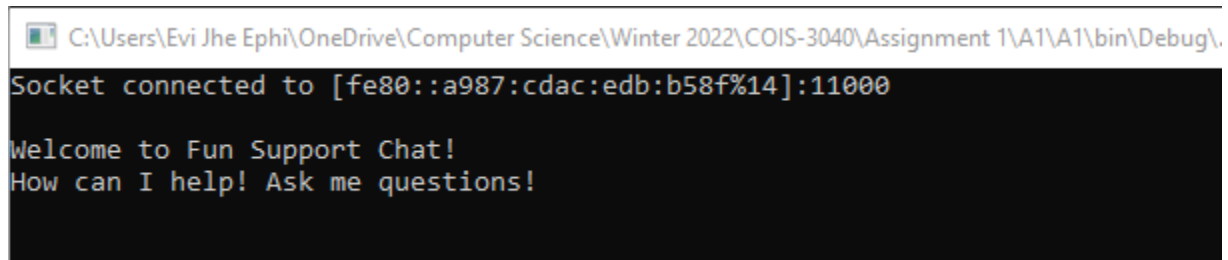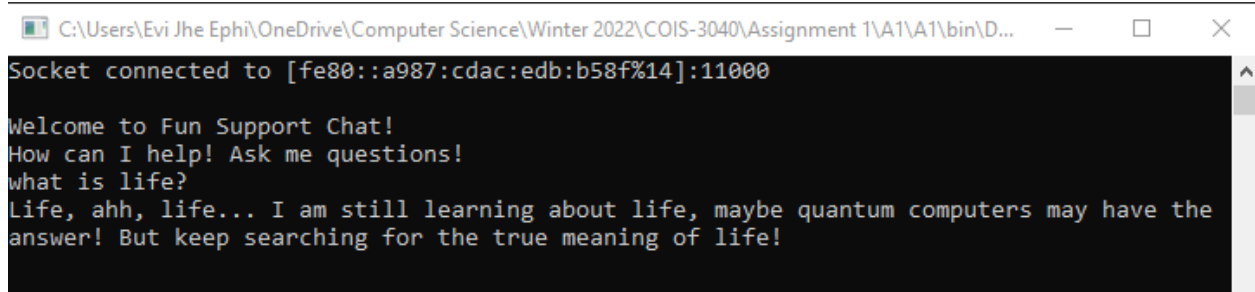User input on server terminal to show that text has been received from client

```
 file:///C:/Users/Evi Jhe Ephi/OneDrive/Computer Science/Winter 2022/COIS-3040/Assignment 1/server_A1/
Waiting for a connection...
Connected
Text received : what is life?
```

Wrong user input on client terminal. Server replies that it doesn't understand and displays the expected correct input

```
what is my name?

Sorry, I dont understand
I can only answer questions about
- Life
- Work
- Computer
- Marriage
- Technology
To Exit, simply type quit
```

Another correct user input on the client terminal about marriage and response from server

```
what can you tell me about marriage?

Marriage is when a man and woman become as one. The trouble starts when they try to
decide which one.
```

More user input

```
How can I learn computer programming in a month?

How did the good teacher know how to teach computer programming to the inpatient
boy? He taught the kid about computers bit by bit!
```

More user input

```
How advanced are humans in technology?

We humans like to think ourselves pretty advanced ? and with no other technol
ogy-bearing beings to compare ourselves to, our back-patting doesn?t have to
take context into account. After all, we harnessed fire, invented stone tools
 and the wheel, developed agriculture and writing, built cities, and learned
to use metals.
```
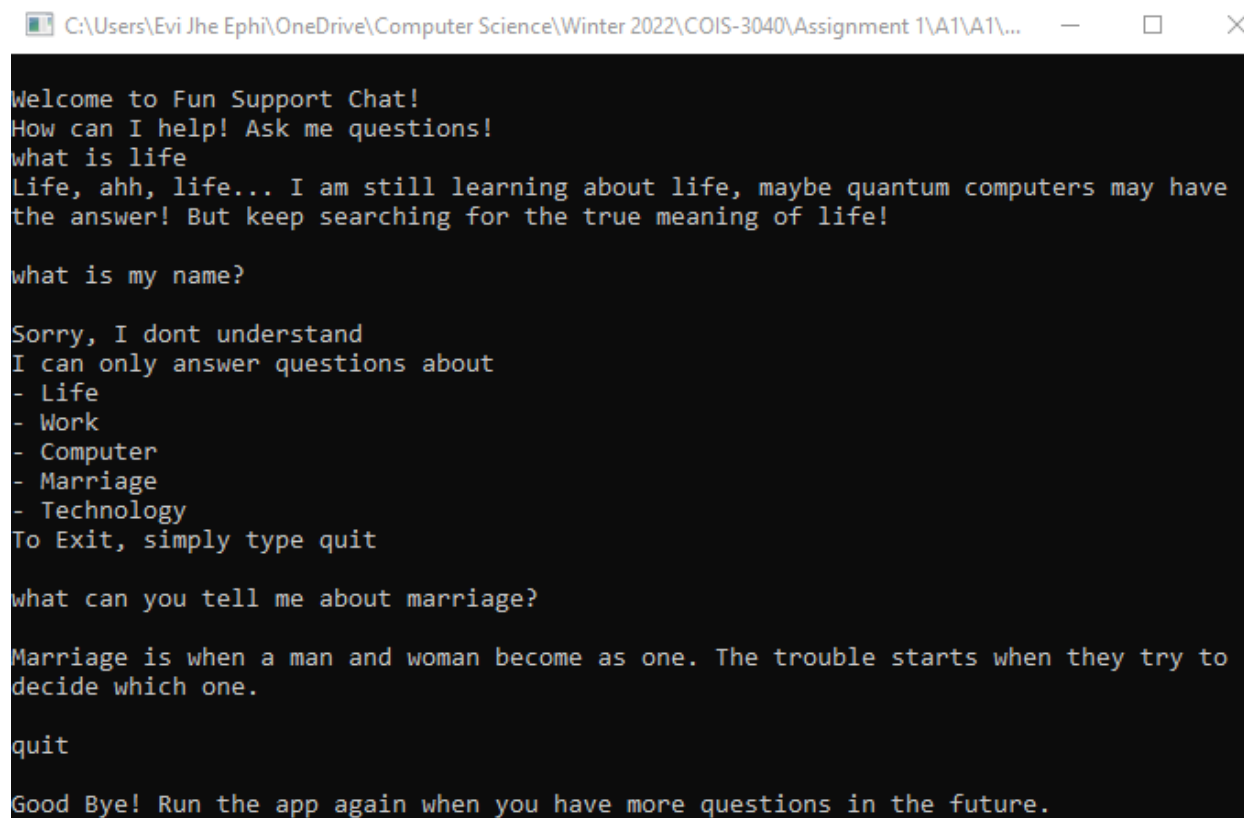
When user decides to exit and types quit

```
quit

Good Bye! Run the app again when you have more questions in the future.
```

All client and server interactions on client terminal

```
Welcome to Fun Support Chat!
How can I help! Ask me questions!
what is life
Life, ahh, life... I am still learning about life, maybe quantum computers may have
the answer! But keep searching for the true meaning of life!

what is my name?

Sorry, I dont understand
I can only answer questions about
- Life
- Work
- Computer
- Marriage
- Technology
To Exit, simply type quit

what can you tell me about marriage?

Marriage is when a man and woman become as one. The trouble starts when they try to
decide which one.

quit

Good Bye! Run the app again when you have more questions in the future.
```

All client input on server terminal

```
Waiting for a connection...
Connected
Text received : what is life
Text received : what is my name?
Text received : what can you tell me about marriage?
Text received : quit
```

Decomposition View

```
System
  ┌──────────────────┐
  │      Server       │
  ├──────────────────┤
  │      Client       │
  └──────────────────┘
        Module
```
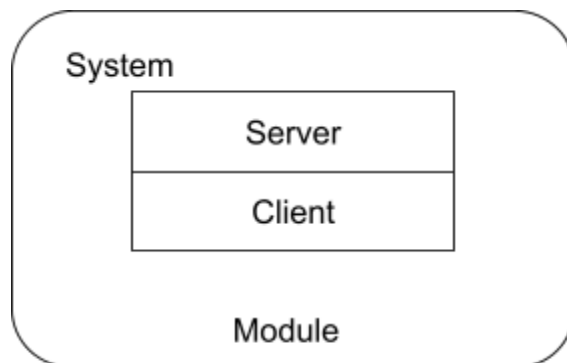
Server

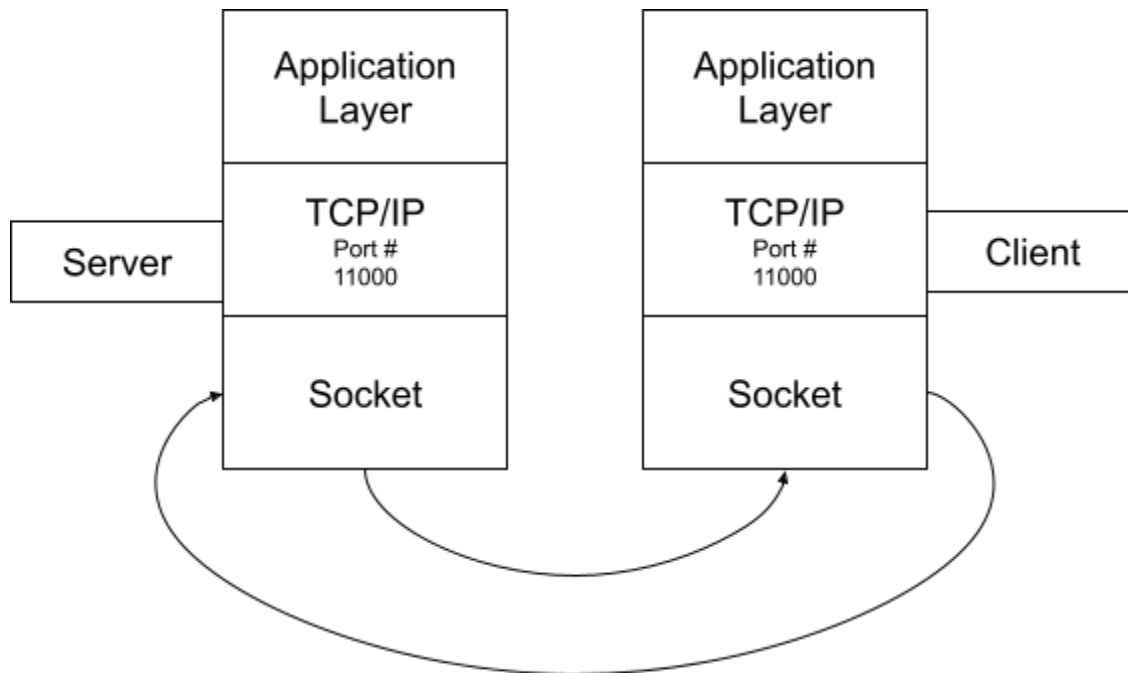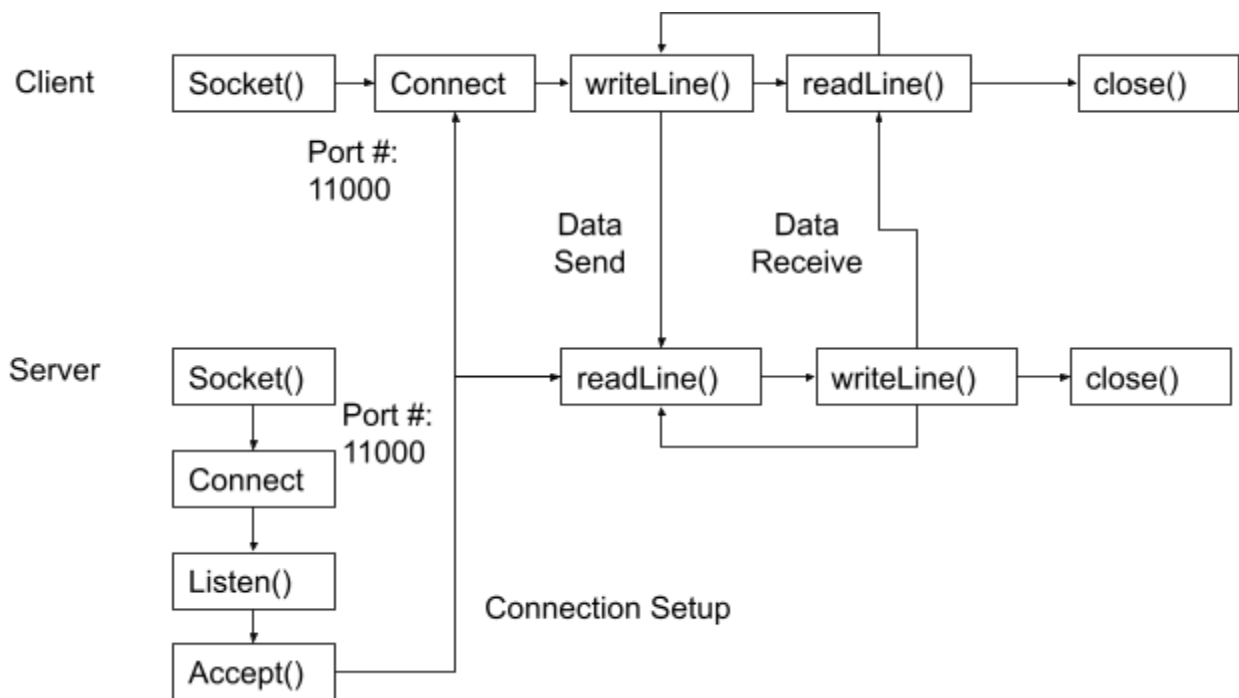| SychronousSocketListener |
|---|
| +data:string=null |
| +keepRunning:bool=true |
| +MoreData:bool=true |
| +bytesRec:int=handler.Receive(bytes) |
| +main(args: String[]): int |
| +StartListening():void |

Client

SychronousSocketListener
-userInput:string=Console.ReadLine()
-bytesRec:int=handler.Receive(bytes)
-bytesSent:int=sender.Send(msg)
+StartListening():void
+main(args: String[]): int

A service structure view

Client — Socket() → Connect → writeLine() → readLine() → close()

Port #: 11000

Data Send

Data Receive

Server — Socket() → Connect → Listen() → Accept()

Port #: 11000

readLine() → writeLine() → close()

Connection Setup

Application Layer	Application Layer
TCP/IP Port # 11000	TCP/IP Port # 11000
Socket	Socket

Server

Client

Data transmission across established network

A Quality Attribute Scenario

Source of Stimulus
User/Client

Stimulus
Ask questions
(correct input)

Artifact

Environment
Normal
Operation

Response
Questions are
processed

Response Measure
Average Latency
(one second)