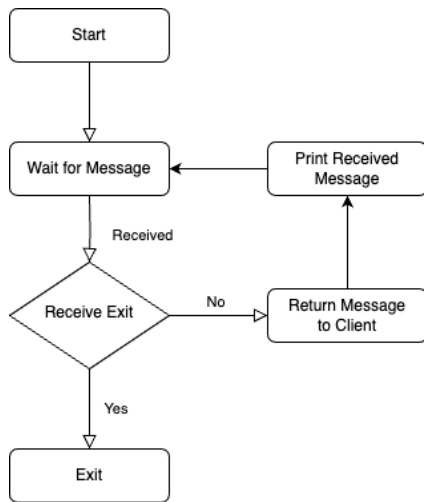


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3.25 using python



The screenshot shows a code editor with two files: `server.py` and `client.py`. The `server.py` file is on the left, and the `client.py` file is on the right. Below the code, the terminal output for both files is visible.

```
server.py
1 # server.py
2 import socket
3
4 HOST = "127.0.0.1" # Standard loopback interface address (localhost)
5 PORT = 8888 # Port to listen on (non-privileged ports are > 1023)
6
7 with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
8     s.bind((HOST, PORT))
9     s.listen()
10    while True:
11        conn, addr = s.accept()
12        with conn:
13            print(f"Connected by {addr}")
14            while True:
15                data = conn.recv(1024)
16                if data.decode() == "exit":
17                    print("Client: exit")
18                    exit()
19                if not data:
20                    break
21            conn.sendall("Server: ".encode() + data)
22            print("Server: " + data.decode())
```

```
client.py
1 # client.py
2 import socket
3
4 HOST = "127.0.0.1" # The server's hostname or IP address
5 PORT = 8888 # The port used by the server
6
7 with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
8     s.connect((HOST, PORT))
9     print("Connected to server\nType 'exit' to exit")
10    while True:
11        print("Client: ", end="")
12        scan = input()
13        s.sendall(scan.encode())
14        data = s.recv(1024).decode()
15        if scan == "exit":
16            exit()
17        print(data)
```

Terminal output for `server.py`:

```
00cybrao@Cybra-2 Operating_System % python server.py
Connected by ('127.0.0.1', 54044)
Server: HI
Server: Testing
Client: exit
00cybrao@Cybra-2 Operating_System %
```

Terminal output for `client.py`:

```
00cybrao@Cybra-2 Operating_System % python client.py
Connected to server
Type 'exit' to exit
Client: HI
Server: HI
Client: Testing
Server: Testing
Client: exit
00cybrao@Cybra-2 Operating_System %
```

心得：

沒想到用 Python 內建就有可以創 socket 做連線的方式，原本要用 C 寫，但是後來因為原生的 C 的其中一個 socket 函式庫過期不能用了所以才改用 Python 寫