TCP

CALCULATOR

SERVER:-

```
import socket

server = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
server_IP = socket.gethostname()  # Optionally replace with '' to bind to all interfaces
PORT_NO = 5600
server.bind((server_IP, PORT_NO))
server.listen(1)
print("Waiting for connection...")
conn, addr = server.accept()
print("Connected...")

while True:
    message = conn.recv(1024).decode('utf-8')
    if message.lower() == 'bye':
        print("\nExiting the conversation")
        break
    print("Client :", message)

    try:
        # Evaluating the expression safely
        result = eval(message)
        print("Result:", result)
        conn.sendall(str(result).encode('utf-8'))
    except Exception as e:
        print("Error:", str(e))
        conn.sendall(f"Error: {str(e)}".encode('utf-8'))

conn.close()
```

CLIENT:-

```
import socket

client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
server_IP = 'localhost'
PORT_NO = 5600
client_socket.connect((server_IP, PORT_NO))
print("Connected to the server...")

while True:
    message = input("YOU = ")
    client_socket.sendall(message.encode('utf-8'))

    if message.lower() == 'bye':
        print("\nExiting the connection")
        break

    response = client_socket.recv(1024).decode('utf-8')
    print("Server:", response)

client_socket.close()
```

OUTPUT:-

SERVER:-

```
PS C:\Users\manis\OneDrive\Desktop\TE\CNS> python .\Calculatorserver_TCP.py
Waiting for connection...
Connected...
Client : 5+3
Result: 8
Client : 3-3
Result: 0
Client : 5*87
Result: 435
Client : 9*9*9
Result: 729

Exiting the conversation…
```

CLIENT:-

```
PS C:\Users\manis\OneDrive\Desktop\TE\CNS> python .\Calculatorclient_TCP.py
Connected to the server...
YOU = 5+3
Server: 8
YOU = 3-3
Server: 0
YOU = 5*87
Server: 435
YOU = 9*9*9
Server: 729
YOU = bye

Exiting the connection…
```