

SERVER 1 CODE

```
Terminal
import socket
import sys

def eval_expression(expression,addr):
    try:
        print(f'Expression recieved from client {addr}: {expression}')
        return str(eval(expression))
    except:
        return "Invalid expression"

def server1(port):
    server_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    server_socket.bind(("localhost", port))
    server_socket.listen(1)
    print("Server1 started on port", port)
    conn, addr = server_socket.accept()
    server_socket.close()
    print("Client connected from", addr)
    while True:
        expression = conn.recv(1024).decode()
        if not expression:
            break
        result = eval_expression(expression,addr)
        conn.send(result.encode())
    conn.close()

if __name__ == "__main__":
    port = 1111
    server1(port)
```

1,1 All

CLIENT CODE

```
Terminal
import socket
import sys
def client(port):
    try:
        client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        client_socket.connect(("localhost", port))
    except ConnectionRefusedError as e:
        print(f'Another client is already connected: {e}')
        return
    while True:
        expression = input("Enter an arithmetic expression: ")
        client_socket.send(expression.encode())
        result = client_socket.recv(1024).decode()
        print("Result:", result)

if __name__ == "__main__":
    port = 1111
    client(port)
```

1,1 Top

SERVER 1 OUTPUTS

```
Terminal
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python client.py
Enter an arithmetic expression: -1*-3
Result: 3
Enter an arithmetic expression: -4*-3*-6+5/3+2*-9
Result: -88.33333333333333
Enter an arithmetic expression: 6^2
Result: 4
Enter an arithmetic expression: 6**2
Result: 36
Enter an arithmetic expression: (3*2)/9-1*6+8-1
Result: 1.6666666666666667
Enter an arithmetic expression: -4*6+7-3
Result: -20
Enter an arithmetic expression:
```

CLIENT RUNNING

SERVER RUNNING

```
Terminal
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python server1.py
Server1 started on port 1111
Client connected from ('127.0.0.1', 37002)
Expression recieved from client ('127.0.0.1', 37002): -1*-3
Expression recieved from client ('127.0.0.1', 37002): -4*-3*-6+5/3+2*-9
Expression recieved from client ('127.0.0.1', 37002): 6^2
Expression recieved from client ('127.0.0.1', 37002): 6**2
Expression recieved from client ('127.0.0.1', 37002): (3*2)/9-1*6+8-1
Expression recieved from client ('127.0.0.1', 37002): -4*6+7-3
█
```

```
Terminal
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python server1.py
Server1 started on port 8001
Client connected from ('127.0.0.1', 39680)
█

Terminal
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python client.py
Enter an arithmetic expression: █

Terminal
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python client.py
Another client is already connected: [Errno 111] Connection refused
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ █
```

MULTIPLE
CLIENTS NOT
CONNECTING

SERVER 2 CODE:

```
import socket
import os
import sys
def eval_expression(expression,addr):
    try:
        print(f'Expression recieved from client {addr}: {expression}')
        return str(eval(expression))
    except:
        return "Invalid expression"

def handle_client(conn, addr):
    print("Client connected from", addr)
    while True:
        expression = conn.recv(1024).decode()
        if not expression:
            break
        result = eval_expression(expression,addr)
        conn.send(result.encode())
    conn.close()

def server2(port):
    server_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    server_socket.bind(("localhost", port))
    server_socket.listen(5)
    print("Server2 started on port", port)
    while True:
        conn, addr = server_socket.accept()
        pid = os.fork()
        if pid == 0:
            server_socket.close()
            handle_client(conn, addr)
            os._exit(0)
        else:
            conn.close()

if __name__ == "__main__":
    port = 1111
    server2(port)
```

1,1

All

SERVER 2 OUTPUTS

```
Terminal
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python client.py
Enter an arithmetic expression: -1*-8/3*6
Result: 16.0
Enter an arithmetic expression: -1-2-3/6*3
Result: -4.5
Enter an arithmetic expression: 
```

CLIENT 1 RUNNING

```
Terminal
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python client.py
Enter an arithmetic expression: -4*-7/8*9+3
Result: 34.5
Enter an arithmetic expression: -9-8+5*2/4
Result: -14.5
Enter an arithmetic expression: 
```

CLIENT 2 RUNNING

SERVER 2 RUNNING

```
Terminal
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python server2.py
Server2 started on port 1111
Client connected from ('127.0.0.1', 35564)
Client connected from ('127.0.0.1', 51128)
Expression recieved from client ('127.0.0.1', 35564): -1*-8/3*6
Expression recieved from client ('127.0.0.1', 51128): -4*-7/8*9+3
Expression recieved from client ('127.0.0.1', 35564): -1-2-3/6*3
Expression recieved from client ('127.0.0.1', 51128): -9-8+5*2/4

```