### SERVER 1 CODE

```
Terminal
<mark>i</mark>mport socket
import sys
def eval_expression(expression,addr):
        print(f'Expression recieved from client {addr}: {expression}')
        return str(eval(expression))
    except:
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:
        result = eval_expression(expression,addr)
        conn.send(result.encode())
    conn.close()
    __name__ == "__main__":
port = 1111
    server1(port)
                                                                      1,1
                                                                                      All
```

### **CLIENT CODE**

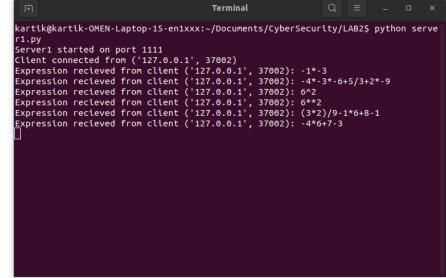
```
Terminal
                                                         Q.
                                                              \equiv
                                                                        import socket
import sys
def client(port):
        client_socket = socket.socket(socket.AF_INET, 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)
                                                                           Top
                                                            1,1
```

# **SERVER 1 OUTPUTS**

```
Q ≡
                                     Terminal
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python clien
t.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: 1.666666666666667
Enter an arithmetic expression: -4*6+7-3
Result: -20
Enter an arithmetic expression:
```

**CLIENT RUNNING** 

SERVER RUNNING



Terminal

| Column |

MULTIPLE
CLIENTS NOT
CONNECTING

### SERVER 2 CODE:

```
Ŧ
                                     Terminal
                                                           Q = - -
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 Q ≡ − □ × kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2\$ python clien t.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**

```
Rartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python clien t.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**

```
kartik@kartik-OMEN-Laptop-15-en1xxx:~/Documents/CyberSecurity/LAB2$ python serve r2.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
```

# **SERVER 2 RUNNING**