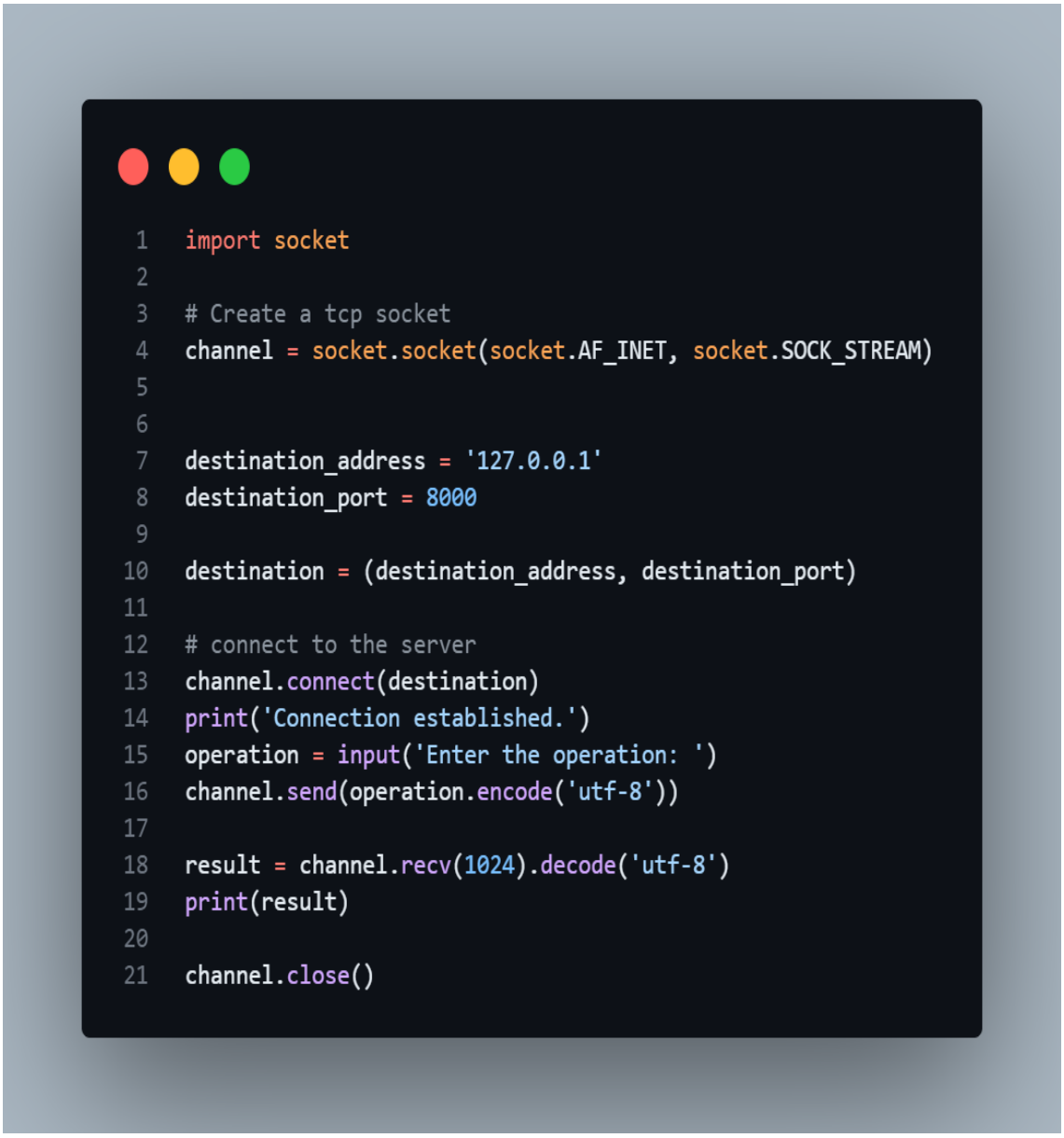
TP Socket

BELMILOUD Laid Aboubakr

groupe 07

1 Programme socket TCP:

1.1 Client:



```python
import socket

# Create a tcp socket
channel = socket.socket(socket.AF_INET, socket.SOCK_STREAM)


destination_address = '127.0.0.1'
destination_port = 8000

destination = (destination_address, destination_port)

# connect to the server
channel.connect(destination)
print('Connection established.')
operation = input('Enter the operation: ')
channel.send(operation.encode('utf-8'))

result = channel.recv(1024).decode('utf-8')
print(result)

channel.close()
```

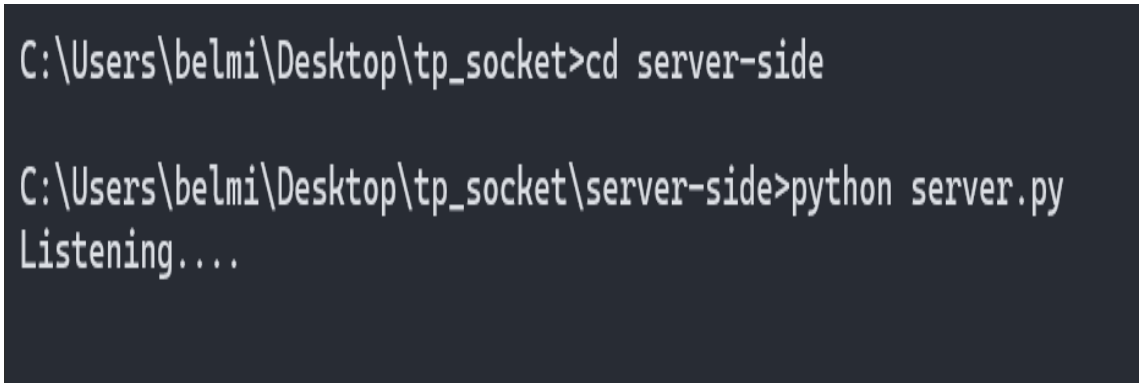
1.2 Serveur:

```python
import socket
import time as timer

def split_data(data,operantion):
    num1, num2 = data.split(operantion)
    print('Calculating...')
    return (num1, num2)

def calculate(data):
    result = "Invalid operation"
    print('Checking the operation type ...')
    timer.sleep(2)

    if '+' in data:
        num1, num2 = split_data(data,'+')
        result= float(num1) + float(num2)
    elif '-' in data:
        num1, num2 = split_data(data,'-')
        result= float(num1) - float(num2)
    elif '*' in data:
        num1, num2 = split_data(data,'*')
        result= float(num1) * float(num2)
    elif '/' in data:
        num1, num2 = split_data(data,'/')
        try:
            result= float(num1) / float(num2)
        except ZeroDivisionError:
            result = 'Division by zero is not allowed'
    else:
        print('Invalid operation')

    return result
# Create a tcp socket
channel = socket.socket(socket.AF_INET, socket.SOCK_STREAM)


server_address = '127.0.0.1'
server_port = 8000
# assign the server address and port to the socket
channel.bind((server_address, server_port))

channel.listen(2)
print('Listening....')

s, source_address = channel.accept()
print('Connection established with', source_address)

msg = s.recv(1024).decode('utf-8')
result = calculate(msg)

s.send(str(result).encode('utf-8'))

channel.close()
```

2 Lancement des programmes:

2.1 Client:

2.2 Server:



3 Traitement:

3.1 Client:

```
C:\Users\belmi\Desktop\tp_socket\client-side>python client.py
Connection established.
Enter the operation: 12+39
51.0

C:\Users\belmi\Desktop\tp_socket\client-side>
```

3.2 Server:

```
C:\Users\belmi\Desktop\tp_socket\server-side>python server.py
Listening....
Connection established with ('127.0.0.1', 65481)
Checking the operation type ...
Calculating...
```

ici le source code