Ex No. 05   **Calculator Using XMLRPC**

Date: 01-09-2025

Aim:

   To develop a client server application that perform basic arithmetic opration (addition, subtraction,multiplication and division) using XML-RPL protocol, demostration remote procedure calls overall network.

Algorithm:

1. Start the server on a specific ip or port

2. Define function (add, Sub, Mul, Div)

3. Register all function with the server using their names.

4. Start listening for incoming client requests.

5. ASV the user to enter (add, Sub, Mul, Div).

6. Choose an operation (add, Sub, Mul, Div)

7. Receive the result form the server.

Program:

Server.py

```python
from xmlrpc.server import SimpleXMLRPCServer


def add(a, b):
    return a + b


def sub(a, b):
    return a - b


def mul(a, b):
    return a * b


def div(a, b):
    if b == 0:
        return "Error: Division by zero"
```

```python
        return a / b


def mod(a, b):
    if b == 0:
        return "Error: Modulus by zero"
    return a % b


server = SimpleXMLRPCServer(("localhost", 8000))
print("Listening on port 8000...")


server.register_function(add, "add")
server.register_function(sub, "sub")
server.register_function(mul, "mul")
server.register_function(div, "div")
server.register_function(mod, "mod")


server.serve_forever()
```

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Client. py

```python
import xmlrpc.client


proxy = xmlrpc.client.ServerProxy('http://localhost:8000')


count = int(input("Enter how many calculations you want to do: "))


for i in range(count):
    a = int(input("Enter first number (a): "))
    b = int(input("Enter second number (b): "))
```
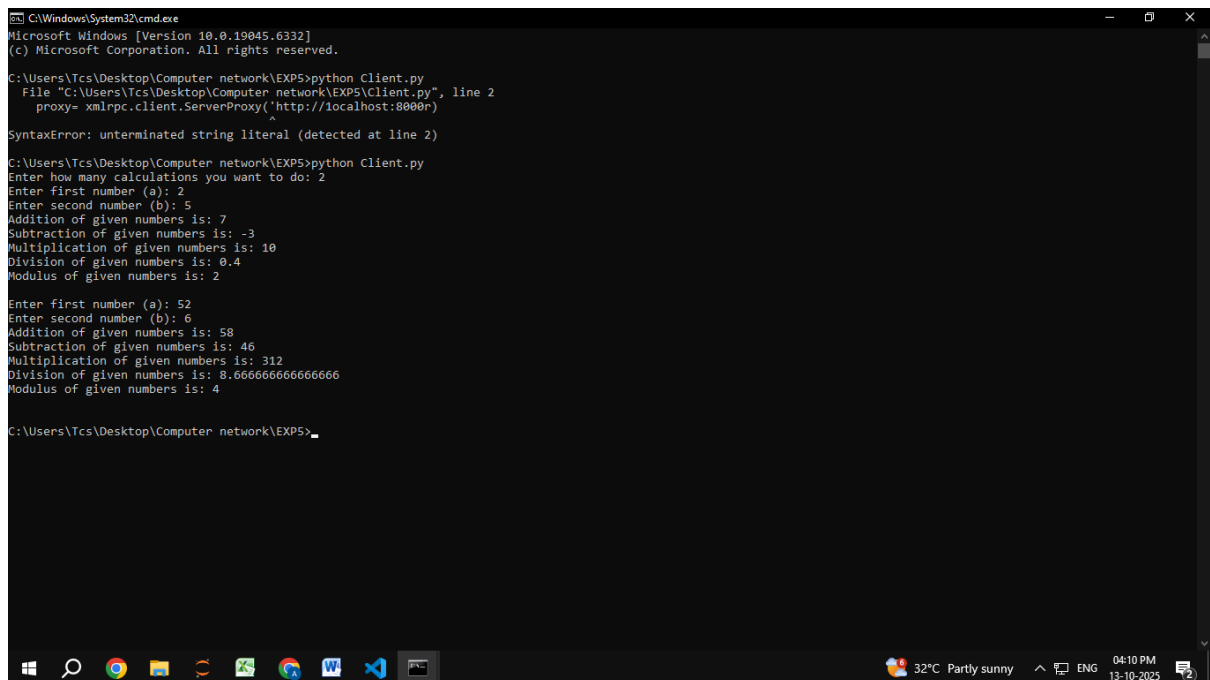
print("Addition of given numbers is:", proxy.add(a, b))

print("Subtraction of given numbers is:", proxy.sub(a, b))

print("Multiplication of given numbers is:", proxy.mul(a, b))

print("Division of given numbers is:", proxy.div(a, b))

print("Modulus of given numbers is:", proxy.mod(a, b))

print() # Blank line for readability

Output:

Result:

Thus, the communication between an XML-RPC client and server was successfully implemented and demonstrated using Python.