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DEVELOP A SIMPLE CALCULATOR USING XML-RPC

AIM:

To develop a simple calculator application using XML-RPC in python where the server performs arithmetic operations (addition ,subtraction ,multiplication and division) on inputs sent from the client.

ALGORITHM:

Server:

1. Import simple XML-RPC (server from xml/rpc ,server)
2. Define arithmetic functions (add,sub,mul,div)
3. Create an XML-RPC server object with host and port
(eg: localhost:8000)
4. Register the functions with the server
5. Start the server

Client:

1. Import xmlrpclib
2. Create a server proxy object to connect to the server
3. Ask the user for the operation and input values
4. Call the appropriate function (add, sub, mul, div) through the proxy.

5. Display the result received from the server.

PROGRAM:

Server:

```
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):
    return a / b

def mod(a, b):
    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()
```

Client:

```
import xmlrpclib  
  
proxy = xmlrpclib.ServerProxy('http://localhost:8000/')  
  
for i in range(5):  
  
    a = int(input("Enter a number: "))  
  
    b = int(input("Enter b number: "))  
  
    print("Addition of given numbers is %d" % (proxy.add(a, b)))  
  
    print("Subtraction of given numbers is %d" % (proxy.sub(a, b)))  
  
    print("Multiplication of given numbers is %d" % (proxy.mul(a,  
b)))  
  
    print("Division of given numbers is %d" % (proxy.div(a, b)))  
  
    print("Modulus of given numbers is %d" % (proxy.mod(a, b)))  
  
    print("-----")
```

OUTPUT:

Server:

```
Microsoft Windows [Version 10.0.26100.1457]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\Users\user>cd C:\Users\user\OneDrive\Documents  
  
C:\Users\user\OneDrive\Documents>python calserver.py  
Listening on port 8000...  
127.0.0.1 - - [06/Oct/2025 14:25:20] "POST / HTTP/1.1" 200 -  
127.0.0.1 - - [06/Oct/2025 14:25:22] "POST / HTTP/1.1" 200 -  
127.0.0.1 - - [06/Oct/2025 14:25:24] "POST / HTTP/1.1" 200 -  
127.0.0.1 - - [06/Oct/2025 14:25:26] "POST / HTTP/1.1" 200 -  
127.0.0.1 - - [06/Oct/2025 14:25:28] "POST / HTTP/1.1" 200 -  
|
```

Client:

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\user> cd C:\Users\user\OneDrive\Documents
PS C:\Users\user\OneDrive\Documents> python calclient.py
Enter a number: 4
Enter b number: 7
Addition of given numbers is 11
Subtraction of given numbers is -3
Multiplication of given numbers is 28
Division of given numbers is 0
Modulus of given numbers is 4
-----
Enter a number: |
```

RESULT:

A simple calculator using XML-RPC in python is successfully developed and performed arithmetic operation.