EXPT: 5 DEVELOP A SIMPLE CALCULATOR USING XML-RPC

Aim :

Build a simple XML-RPC server that provides calculator functions and a client that calls them.

Algorithm :

1. Create an XML-RPC server that registers calculator functions.

2. Start the server on localhost and a chosen port.

3. Client connects to server URL and calls functions with arguments.

4. Server executes the function and returns result. Client prints it.

Code :

Server:

```
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):
    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 :

```python
import xmlrpc.client
proxy=xmlrpc.client.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 number is %d "%((proxy.add(a,b))))
    print("sub of given number is %d "%((proxy.sub(a,b))))
    print("multiplication of given number is %d "%((proxy.mul(a,b))))
    print("division of given number is %d "%((proxy.div(a,b))))
    print("mod of given number is %d "%((proxy.mod(a,b))))
```

 Output :

Server :

```
~/CN/xmlrpc
> python server.py
Listening on port 8000...
127.0.0.1 - - [18/Nov/2025 10:42:14] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [18/Nov/2025 10:42:14] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [18/Nov/2025 10:42:14] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [18/Nov/2025 10:42:14] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [18/Nov/2025 10:42:14] "POST / HTTP/1.1" 200 -
```

Client :

```
~/CN/xmlrpc
> python client.py
Enter a number: 50
Enter b number: 40
addition of given number is 90
sub of given number is 10
multiplication of given number is 2000
division of given number is 1
mod of given number is 10
Enter a number:
```

 Result :

The XML-RPC calculator server successfully provided remote arithmetic functions. The
client connected to the server and received correct results for addition, subtraction,
multiplication, division, and modulo.