Ex No : 11 B **Date :7/11/2024**

Develop a simple calculator using XMLRPC

AIM : Develop a simple calculator using XMLRPC

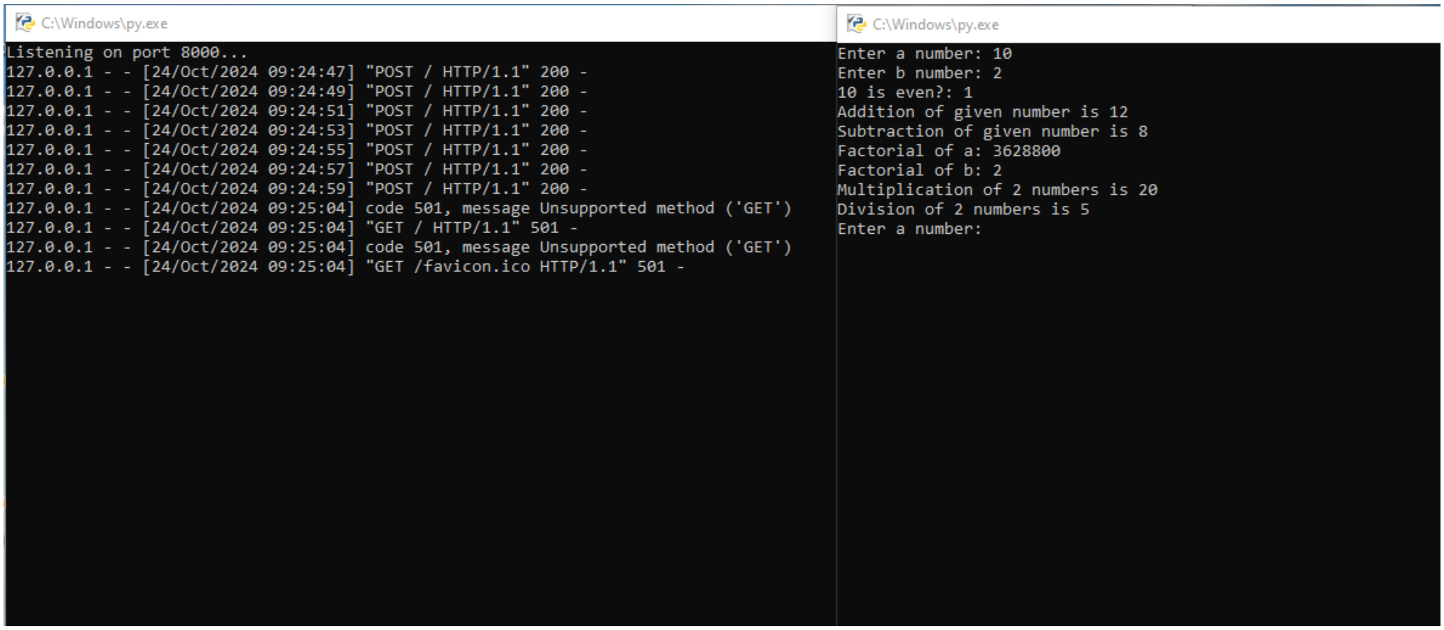
XML RPC PROGRAM- SERVER SIDE:

```
from xmlrpc.server import SimpleXMLRPCServer
# Define a function
def is_even(n):
 return n % 2 == 0
def add(a,b):
 return a+b
def sub(a,b):
 return a-b
def factorial(n):
 factorial=1
 for i in range(1,n+1):
 factorial = factorial*i
 return factorial
def multiply(x, y):
 return x * y
def divide(x, y):
    return x // y
# Create server
server = SimpleXMLRPCServer(("localhost", 8000))
print("Listening on port 8000...")
# Register a function under a different name
server.register_function(is_even, "is_even")
server.register_function(add, "add")
server.register_function(sub, "sub")
server.register_function(factorial,"factorial")
#server.register_function(factorial,"factorial")
server.register_function(multiply, 'multiply')
server.register_function(divide, 'divide')
# Run the server's main loop
server.serve_forever()
```

XML RPC PROGRAM- CLIENT SIDE:

```
import xmlrpc.client
proxy= xmlrpc.client.ServerProxy('http://localhost:8000/') # local server for i in range(5):
 a=int(input("Enter a number:"))
 b=int(input("Enter b number:"))
 print("%d is even?: %d" % (a, (proxy.is_even(a)))) #access XML-RPC server through proxy
print("addition of given number is %d "%((proxy.add(a,b))))  print("sub of given number is %d
"%((proxy.sub(a,b))))  print("factorial: %d" %((proxy.factorial(a))))
 print("factorial: %d" %((proxy.factorial(b))))
   print(“Multiplication of 2 numbers is %d” %(proxy.multiply(a,b))  print(“Division of 2
numbers is %d” %(proxy.divide(a,b))
```

Output



```
Listening on port 8000...
127.0.0.1 - - [24/Oct/2024 09:24:47] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [24/Oct/2024 09:24:49] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [24/Oct/2024 09:24:51] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [24/Oct/2024 09:24:53] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [24/Oct/2024 09:24:55] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [24/Oct/2024 09:24:57] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [24/Oct/2024 09:24:59] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [24/Oct/2024 09:25:04] code 501, message Unsupported method ('GET')
127.0.0.1 - - [24/Oct/2024 09:25:04] "GET / HTTP/1.1" 501 -
127.0.0.1 - - [24/Oct/2024 09:25:04] code 501, message Unsupported method ('GET')
127.0.0.1 - - [24/Oct/2024 09:25:04] "GET /favicon.ico HTTP/1.1" 501 -
```

```
Enter a number: 10
Enter b number: 2
10 is even?: 1
Addition of given number is 12
Subtraction of given number is 8
Factorial of a: 3628800
Factorial of b: 2
Multiplication of 2 numbers is 20
Division of 2 numbers is 5
Enter a number:
```