EX:11c

DATE:02.10.24

REMOTE PROCEDURE CALL FOR LIST OPERATIONS- XMLRPC

Aim:

To Implement an XML RPC code for the following functions, a.

No of items in a list

b. Smallest element in a list

c. Largest element in the list

d. Converting a list to a set.
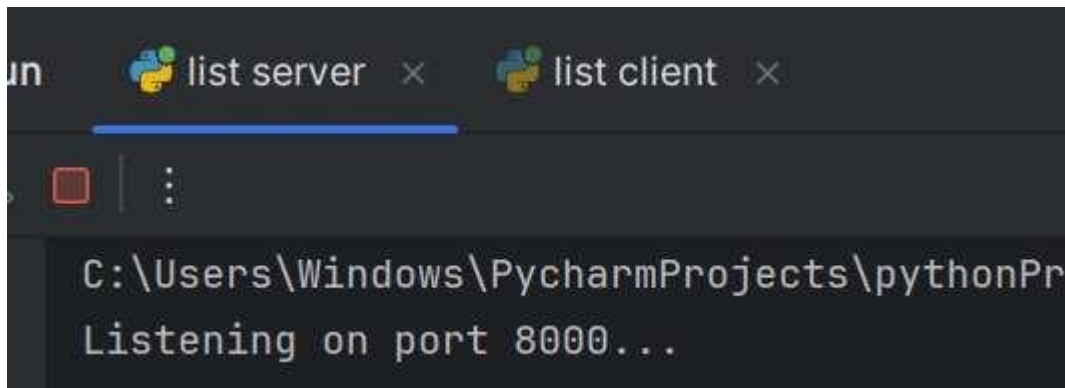
Algorithm:

Server Side

1. Import SimpleXMLRPCServer.

2. Define Functions: Implement list_length, list_maximum, list_minimum, list_to_set, and list_concate.

3. Set Up Server on localhost:8000 and register functions.

4. Start Server using serve_forever().

Client Side

1. Import ServerProxy.

2. Connect to Server at http://localhost:8000/.

3. Get User Input: Prompt for lists a and b.

4. Call Server Functions: Execute list operations and display results.

5. Exit if user selects the stop option.

Program: Server.py

```python
from xmlrpc.server import SimpleXMLRPCServer def
list_length(a):
 return len(a)
def list_maximum(a):
 return max(a) def
list_minimum(a):
 return min(a) def
list_to_set(a):
 f=list(set(a))  return
f def
list_concate(a,b):
 return a+b server = SimpleXMLRPCServer(("localhost",
8000)) print("Listening on port 8000...")
server.register_function(list_length,"list_length")
server.register_function(list_maximum, "list_maximum")
server.register_function(list_minimum, "list_minimum")
server.register_function(list_to_set, "list_to_set")
server.register_function(list_concate, "list_concate")
server.serve_forever()
```

Output:

Client.py import xmlrpc.client proxy=
xmlrpc.client.ServerProxy('http://localhost:8000/') while
True:
print("PRESS 1-->START || 2--> STOP ") c=int(input("ENTER
YOUR CHOICE")) a=[] b=[] if c==1:

```
  print("ENTER THE ELEMENTS TO ADD FIRST LIST")
print("PRESS -1 TO EXIT THIS LIST")   while True:
   d=int(input("--->"))
if d==-1:     break
   a.append(d)
  print("ENTER THE ELEMENTS TO ADD SECOND LIST")
print("PRESS -2 TO EXIT THIS LIST")   while True:
   e=int(input("--->"))
if e==-2:     break
   b.append(e)  if c == 2:     break  print(a)
print(b)  print("list_length",
proxy.list_length(a))  print("list_maximum",
proxy.list_maximum(a))  print("list_minimum",
proxy.list_minimum(a))  print("list_to_set",
proxy.list_to_set(a))  print("list_concate",
proxy.list_concate(a, b))
```

Output:

```
C:\Users\Windows\PycharmProjects\pythonProje
PRESS 1-->START || 2--> STOP
ENTER YOUR CHOICE1
ENTER THE ELEMENTS TO ADD FIRST LIST
PRESS -1 TO EXIT THIS LIST
--->3
--->5
--->7
--->-1
ENTER THE ELEMENTS TO ADD SECOND LIST
PRESS -2 TO EXIT THIS LIST
--->4
--->8
--->6
--->-2
[3, 5, 7]
[4, 8, 6]
list_length 3
list_maximum 7
list_minimum 3
list_to_set [3, 5, 7]
list_concate [3, 5, 7, 4, 8, 6]
PRESS 1-->START || 2--> STOP
ENTER YOUR CHOICE2

Process finished with exit code 0
```

Result:

      Procedure call for list operations-XMLRPC is remoted.