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REMOTE PROCEDURE CALL FOR SORTING AN ARRAY -XMLRPC

AIM:
To Implement an XML RPC code for sorting array

Algorithm:

Algorithm

Server Program

1. **Import Required Library**: Import the xmlrpc.server library, which provides functionalities for setting up an XML-RPC server.
2. **Define sort_array Function**:
   - ○ Define a function called sort_array that takes a list (arr) as input. ○ Inside this function, return the sorted version of arr.
3. **Set Up Server**:
   - ○ Create an instance of SimpleXMLRPCServer, specifying localhost as the host and 8000 as the port.
   - ○ Print a message indicating the server is running.
4. **Register Function**:
   - ○ Register the sort_array function with the XML-RPC server under the name "sort_array". This makes it available for remote calls.
5. **Run the Server**:
   - ○ Call server.serve_forever() to start the server and keep it running indefinitely, waiting for client requests.

Client Program

1. **Import Required Library**: Import the xmlrpc.client library to enable communication with the XML-RPC server.
2. **Connect to Server**:
   - ○ Create a ServerProxy object to connect to the server running on http://localhost:8000.

3. **Prepare Input Array**:
   - Define an array arr with some integer values that will be sent to the server for sorting.

4. **Call sort_array Method**:
   - Use the server.sort_array() function to send arr to the server for sorting.
   - Store the result (sorted array) in a variable sorted_arr.

5. **Display Results**:
   - Print the original arr and the sorted_arr to verify the sorting operation was successful.

Program:

SERVER PROGRAM: import
xmlrpc.server

```
# Function to sort the array
def sort_array(arr): return
sorted(arr)

# Setting up the server with xmlrpc.server.SimpleXMLRPCServer(('localhost',
8000)) as server:
    print("Server is running...")
    # Registering the sort_array function as an XML-RPC method
    server.register_function(sort_array, 'sort_array')
    server.serve_forever()
```

CLIENT PROGRAM:

```
import xmlrpc.client

# Connect to the server server =
xmlrpc.client.ServerProxy('http://localhost:8000')

# Input array to be sorted arr
= [12, 4, 5, 3, 7, 2]
```

 # Calling the sort_array method on the server sorted_arr
= server.sort_array(arr)

 # Displaying the result print("Original
Array:", arr) print("Sorted Array:",
sorted_arr)

Output

SERVER OUTPUT

```
Server is running...
```

CLIENT OUTPUT

```
Original Array: [12, 4, 5, 3, 7, 2]
Sorted Array: [2, 3, 4, 5, 7, 12]

Process finished with exit code 0
```

RESULT:

Procedure call for sorting an array - XMLRPC remoted.