

**EX NO:11D**

**Date:28.10.24**

## **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]
```

**NAME: HARIN.D.S**

**ROLL NO: 231901009**

*# 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.