Practical No : 0 (Basic of rpc)

Roll No : B -09   Date: 21/8/20

Program 1: Implement concept of RPC (Basic)

Client :

```
import socket
#client code
HOST = '127.0.0.10'
PORT = 65432

with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
        s.connect((HOST, PORT))
        print("CONNECTED")
        n=0
        while(n!=1):
                datai=str(input("**STOP=STOP** ENTER MESSAGE: "))
                if datai!="STOP":
                        s.sendall(b'HI')
                        data = s.recv(1024)
                if datai=="STOP":
                        n=1
print('Received', repr(data))
```

Server:

```
import socket

HOST = '127.0.0.10'
PORT = 65432

with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
   s.bind((HOST, PORT))
   s.listen()
   conn, addr = s.accept()
   with conn:
      print('Connected by', addr)
      while True:
         data = conn.recv(1024);print(data)
         if not data:
            break
         conn.sendall(data)
```
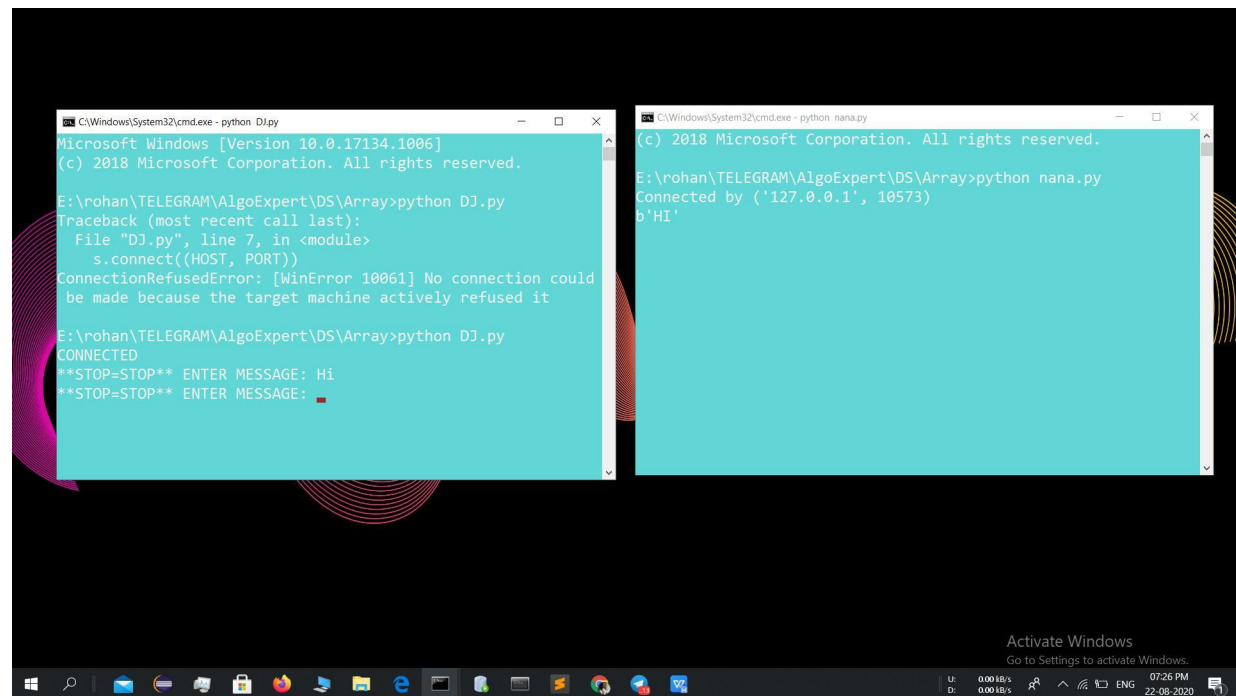
OUTPUT:

Left window:
```
C:\Windows\System32\cmd.exe - python DJ.py

Microsoft Windows [Version 10.0.17134.1006]
(c) 2018 Microsoft Corporation. All rights reserved.

E:\rohan\TELEGRAM\AlgoExpert\DS\Array>python DJ.py
Traceback (most recent call last):
  File "DJ.py", line 7, in <module>
    s.connect((HOST, PORT))
ConnectionRefusedError: [WinError 10061] No connection could
 be made because the target machine actively refused it

E:\rohan\TELEGRAM\AlgoExpert\DS\Array>python DJ.py
CONNECTED
**STOP=STOP** ENTER MESSAGE: Hi
**STOP=STOP** ENTER MESSAGE:
```

Right window:
```
C:\Windows\System32\cmd.exe - python nana.py

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E:\rohan\TELEGRAM\AlgoExpert\DS\Array>python nana.py
Connected by ('127.0.0.1', 10573)
b'HI'
```

Activate Windows
Go to Settings to activate Windows.

07:26 PM
22-08-2020

Program 1: Implement concept of RPC

Client :
```python
import xmlrpc.client

 with xmlrpc.client.ServerProxy("http://localhost:8000/") as proxy:
    print("For 77 is %s" %str(proxy.countCoin(77)))
    print("For 20 is %s" %str(proxy.countCoin(20)))
```

Server:
```python
from xmlrpc.server import SimpleXMLRPCServer
import math as m

 def sr(i):
    return 2**i
 def countCoin(n):
    for _ in range(1):
      p=0
      for i in range(0,n):
        #print(sr(i),i)
        if n>=sr(i):
          p+=1
        else:
          break
    return(p)

server = SimpleXMLRPCServer(("localhost",8000))
print("server listening on 8000")
server.register_function(countCoin,"countCoin")
server.serve_forever()
```

OUTPUT:

Left terminal (C:\Windows\System32\cmd.exe - python sr.py):

```
    server = SimpleXMLRPCServer(("localhost"),8000)
  File "C:\Users\rohan\AppData\Local\Programs\Python\Python38-32\
lib\xmlrpc\server.py", line 605, in __init__
    socketserver.TCPServer.__init__(self, addr, requestHandler, b
ind_and_activate)
  File "C:\Users\rohan\AppData\Local\Programs\Python\Python38-32\
lib\socketserver.py", line 452, in __init__
    self.server_bind()
  File "C:\Users\rohan\AppData\Local\Programs\Python\Python38-32\
lib\socketserver.py", line 466, in server_bind
    self.socket.bind(self.server_address)
TypeError: bind(): AF_INET address must be tuple, not str

E:\rohan\CSE 7\DS>python sr.py
server listening on 8000
127.0.0.1 - - [22/Aug/2020 19:47:50] "POST / HTTP/1.1" 200 -
127.0.0.1 - - [22/Aug/2020 19:47:51] "POST / HTTP/1.1" 200 -
```

Right terminal (C:\Windows\System32\cmd.exe):

```
    self.connect()
  File "C:\Users\rohan\AppData\Local\Programs\Python\Python38-32\
lib\http\client.py", line 915, in connect
    self.sock = self._create_connection(
  File "C:\Users\rohan\AppData\Local\Programs\Python\Python38-32\
lib\socket.py", line 808, in create_connection
    raise err
  File "C:\Users\rohan\AppData\Local\Programs\Python\Python38-32\
lib\socket.py", line 796, in create_connection
    sock.connect(sa)
ConnectionRefusedError: [WinError 10061] No connection could be m
ade because the target machine actively refused it

E:\rohan\CSE 7\DS>python cl.py
For 77 is 7
For 20 is 5

E:\rohan\CSE 7\DS>
```