

```

1  import socket
2
3  # Global Variables
4  s = None
5  host = None
6  port = None
7
8
9  # Create Socket
10 def socket_create():
11     global host
12     global port
13     global s
14     host = ''
15     port = 1001
16
17     try:
18         s = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
19         s.setsockopt(socket.SOL_SOCKET, socket.SO_REUSEADDR, 1)
20     except socket.error as msg:
21         print("Socket creation error: " + str(msg))
22
23
24 # Bind to Socket
25 def socket_bind():
26     global host
27     global port
28     global s
29
30     try:
31         s.bind((host, port))
32         print("The server is ready to receive")
33     except socket.error as msg:
34         print("Socket binding error: " + str(msg))
35
36
37 # UDP Server Protocol
38 def udp_server():
39     global s
40
41     while True:
42         try:
43             data, addr = s.recvfrom(2048)
44             print("IP: " + addr[0] + " | Port: " + str(addr[1]))
45             print("Message: " + str(data.decode('utf-8')))
46
47             s.sendto(data.upper(), (addr[0], addr[1]))
48         except socket.error as msg:
49             print(str(msg))
50
51     s.close()
52
53
54 # Main Function
55 if __name__ == "__main__":
56     # created socket
57     socket_create()
58     # bind socket
59     socket_bind()
60     # udp server
61     udp_server()
62

```