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учреждение высшего образования «Московский городской
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**Институт цифрового образования
Департамент информатики, управления и технологий**

**Практическая работа № 2
«Multicast»**

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socket_multicast_sender.py - task_posgre - Visual Studio Code
File Edit Selection View Go Run Terminal Help

EXPLORER
TASK_POSGRE
  frolov2022
    socket_multicast_receiver.py
    socket_multicast_sender.py

OUTLINE
TIMELINE socket_multicast_s...
  File Saved now

socket_multicast_sender.py
1 import socket
2 import struct
3 import sys
4
5 message = b'privet'
6 multicast_group = ('224.3.29.71', 10000)
7
8 # Create the datagram socket
9 sock = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
10
11 # Set a timeout so the socket does not block
12 # indefinitely when trying to receive data.
13 sock.settimeout(0.2)
14
15 # Set the time-to-live for messages to 1 so they do not
16 # go past the local network segment.
17 ttl = struct.pack('b', 1)
18 sock.setsockopt(socket.IPPROTO_IP, socket.IP_MULTICAST_TTL, ttl)
19
20 try:
21
22     # Send data to the multicast group
23     print('sending {}'.format(message))
24     sent = sock.sendto(message, multicast_group)
25
26     # Look for responses from all recipients
27     while True:
28
29         # Receive data from the socket
30         data, addr = sock.recvfrom(1024)
31         print('received {} bytes from {}: {}'.format(len(data), addr, data))
32
33         # Send an acknowledgement
34         ack = b'ack'
35         sock.sendto(ack, addr)
36
37         # Wait for the next response
38         sock.settimeout(0.2)
39
40     # Close the socket
41     sock.close()
42
43 if __name__ == '__main__':
44     main()
```

received 19 bytes from ('172.26.35.37', 37551)
b'very important data'
sending acknowledgement to ('172.26.35.37', 37551)
waiting to receive message
received 19 bytes from ('172.26.35.37', 46496)
b'very important data'
sending acknowledgement to ('172.26.35.37', 46496)
waiting to receive message
received 19 bytes from ('172.26.35.139', 54973)
b'very important data'

waiting to receive
received b'ack' from ('172.26.35.20', 10000)
waiting to receive
received b'ack' from ('172.26.35.124', 10000)
waiting to receive
timed out, no more responses
closing socket
● lemp@20-05:~/Downloads/task_posgre\$ python3 socket_multicast_sender.py
sending b'privet'
waiting to receive
received b'ack' from ('172.26.35.25', 10000)

sending acknowledgement to ('172.26.35.30', 37043)

waiting to receive message
received 6 bytes from ('172.26.35.25', 60903)
b'privet'
sending acknowledgement to ('172.26.35.25', 60903)

waiting to receive message
received 19 bytes from ('172.26.35.37', 49372)
b'very important data'
sending acknowledgement to ('172.26.35.37', 49372)