Государственное автономное образовательное

учреждение высшего образования «Московский городской

педагогический университет»

Институт цифрового образования

Департамент информатизации образования

Лабораторная работа № 2-02

«Sockets»

Дисциплина: Распределенные системы

Выполнила: студентка группы ТП-191

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Проверил:

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```
lemp001@u20-02:~$ sudo apt install python3-pip
[sudo] password for lemp001:
Sorry, try again.
[sudo] password for lemp001:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  chromium-codecs-ffmpeg-extra gstreamer1.0-vaapi libfwupdplugin1
  libgstreamer-plugins-bad1.0-0 libva-wayland2
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu build-essential dpkg-dev
  fakeroot g++ g++-9 gcc gcc-9 libalgorithm-diff-perl
  libalgorithm-diff-xs-perl libalgorithm-merge-perl libasan5 libatomic1
  libbinutils libc-dev-bin libc6-dev libcrypt-dev libctf-nobfd0 libctf0
  libexpat1-dev libfakeroot libgcc-9-dev libitm1 liblsan0 libpython3-dev
  libpython3.8-dev libquadmath0 libstdc++-9-dev libtsan0 libubsan1
  linux-libc-dev make manpages-dev python-pip-whl python3-dev
  python3-distutils python3-setuptools python3-wheel python3.8-dev zlib1g
  zlib1g-dev
Suggested packages:
  binutils-doc debian-keyring g++-multilib g++-9-multilib gcc-9-doc
  gcc-multilib autoconf automake libtool flex bison gcc-doc gcc-9-multilib
```

```
Setting up dpkg-dev (1.19.7ubuntu3.2) ...
Setting up libexpat1-dev:amd64 (2.2.9-1ubuntu0.4) ...
Setting up libpython3.8-dev:amd64 (3.8.10-0ubuntu1~20.04.5) ...
Setting up zlib1g-dev:amd64 (1:1.2.11.dfsg-2ubuntu1.4) ...
Setting up gcc-9 (9.4.0-1ubuntu1~20.04.1) ...
Setting up libpython3-dev:amd64 (3.8.2-0ubuntu2) ...
Setting up gcc (4:9.3.0-1ubuntu2) ...
Setting up g++-9 (9.4.0-1ubuntu1~20.04.1) ...
Setting up python3.8-dev (3.8.10-0ubuntu1~20.04.5) ...
Setting up g++ (4:9.3.0-1ubuntu2) ...
update-alternatives: using /usr/bin/g++ to provide /usr/bin/c++ (c++) in auto mo
de
Setting up build-essential (12.8ubuntu1.1) ...
Setting up python3-dev (3.8.2-0ubuntu2) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.9) ...
lemp001@u20-02:~$ pip3 install pyzmq
Collecting pyzmq
  Downloading pyzmq-24.0.1-cp38-cp38-manylinux_2_12_x86_64.manylinux2010_x86_64.
whl (1.1 MB)
     |                                   | 1.1 MB 2.4 MB/s
Installing collected packages: pyzmq
Successfully installed pyzmq-24.0.1
lemp001@u20-02:~$
```

```
lemp001@u20-02:~$ pip3 install pyzmq
Requirement already satisfied: pyzmq in ./.local/lib/python3.8/site-packages (24
.0.1)
lemp001@u20-02:~$
```

```
lemp001@u20-02:/$ python3 '/home/lemp001/02-sockets/zeromq/test server/server.py'

Received request: b'Hello'
Received request: b'Hello'
Received request: b'Hello'
Received request: b'Hello'
Received request: b'Hello'
Received request: b'Hello'
Received request: b'Hello'
Received request: b'Hello'
Received request: b'Hello'
Received request: b'Hello'
```

```
lemp001@u20-02: /          ×          lemp001@u20-02: /          ×

lemp001@u20-02:/$ python3 '/home/lemp001/02-sockets/zeromq/test server/client.py'
Connecting to hello world server…
Sending request 0 …
Received reply 0 [ b'World' ]
Sending request 1 …
Received reply 1 [ b'World' ]
Sending request 2 …
Received reply 2 [ b'World' ]
Sending request 3 …
Received reply 3 [ b'World' ]
Sending request 4 …
Received reply 4 [ b'World' ]
Sending request 5 …
Received reply 5 [ b'World' ]
Sending request 6 …
Received reply 6 [ b'World' ]
Sending request 7 …
Received reply 7 [ b'World' ]
Sending request 8 …
Received reply 8 [ b'World' ]
Sending request 9 …
Received reply 9 [ b'World' ]
lemp001@u20-02:/$
```