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Факультет инфокоммуникационных технологий.

**Лабораторная работа №1 по теме:
«Работа с сокетами» по дисциплине: Веб программирование.**

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Ход работы:

1. Создание сервера, который отдает “Hello, client” и клиента, который присылает “Hello, server”

The screenshot shows a code editor with two Python files: `Client.py` and `Server.py`. The `Client.py` file contains the following code:

```
import socket
import sys

def main():
    s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    s.connect(('127.0.0.1', 5280))
    data = s.recv(1024)
    print(data.decode('utf-8'))

if __name__ == '__main__':
    main()
```

The `Server.py` file contains the following code:

```
import socket
import sys

def main():
    s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    s.bind(('127.0.0.1', 5280))
    s.listen(5)
    while True:
        conn, addr = s.accept()
        conn.send('Hello, client!')
        conn.close()

if __name__ == '__main__':
    main()
```

The terminal output shows the client sending "Hello, server!" and the server responding with "Hello, client!".

2. Создание решателя квадратного уравнения на стороне сервера и клиента к нему

The screenshot shows a code editor with two Python files: `Client.py` and `Server.py`. The `Client.py` file contains the following code:

```
import socket
import sys

def main():
    s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    s.connect(('127.0.0.1', 5280))
    data = s.recv(1024)
    print(data.decode('utf-8'))

if __name__ == '__main__':
    main()
```

The `Server.py` file contains the following code:

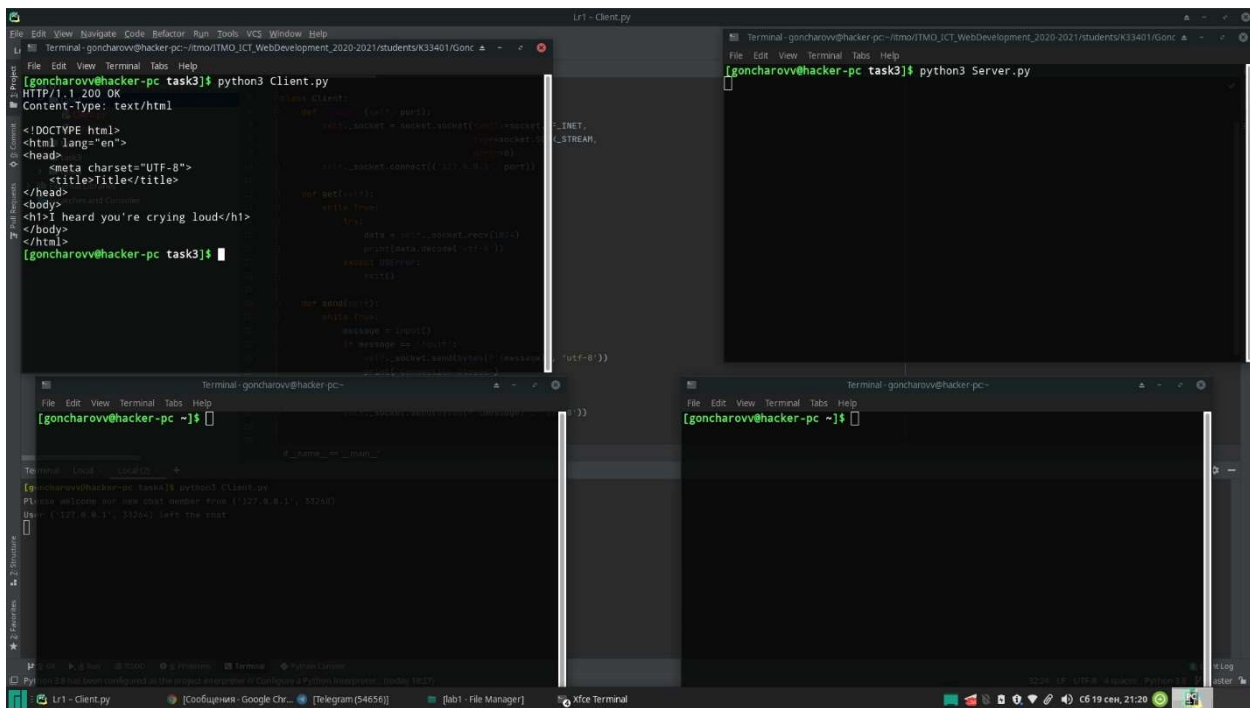
```
import socket
import sys

def main():
    s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    s.bind(('127.0.0.1', 5280))
    s.listen(5)
    while True:
        conn, addr = s.accept()
        conn.send('b^3 - 14 * b^2 - 5 * b + 3 = 0')
        conn.close()

if __name__ == '__main__':
    main()
```

The terminal output shows the client sending "x1 = 5.0; x2 = -0.3333333333333333" and the server responding with "b^3 - 14 * b^2 - 5 * b + 3 = 0".

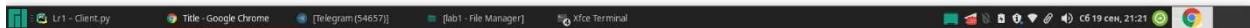
3. Создание сервера, которые отдает html страничку



Работает так же в браузере



I heard you're crying loud



4. Создание многопользовательского чата

The image displays four terminal windows arranged in a 2x2 grid, showing the development and testing of a chat application. The background is a scenic sunset over water.

- Top Left:** A terminal window showing the execution of `python3 Client.py`. The output shows a chat interface where a user sends "Hello, guys!" and receives a response "Hey, you". The user then sends "Boring..." and the connection is closed.
- Top Right:** A terminal window showing the execution of `python3 Server.py`. It displays a traceback error: `OSError: [Errno 98] Address already in use`. The user then runs `fuser 8080/tcp -k` to kill the previous process and runs `python3 Server.py` again.
- Bottom Left:** A terminal window showing the execution of `python3 Client.py` again. The output shows the user sending "Hello, guys!" and receiving "Hey, you". The user then sends "Boring..." and the connection is closed.
- Bottom Right:** A terminal window showing the execution of `python3 Client.py` again. The output shows the user sending "Hello, guys!" and receiving "Hey, you". The user then sends "Boring..." and the connection is closed.

Вывод: в ходе лабораторной работе подкрепил практикой знания о принципе работы сокетов. Научился использовать библиотеки `socket` и `asyncio` в языке Python.