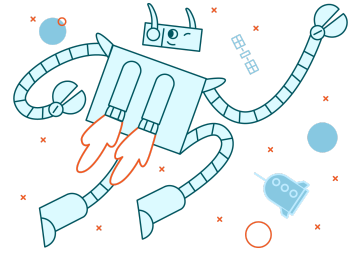# UDP Client 📣

Goal

Develop a Python client that connects to a UDP echo server. Your client will take a message from the user as input, send this message to the server, and display the server's echoed response.

Background

UDP (User Datagram Protocol) is a lightweight, connectionless protocol used for sending messages (datagrams) over a network. Unlike TCP, UDP does not establish a persistent connection between the client and server. In this exercise, you'll create a UDP client that sends a user-provided message to an echo server and receives the echoed response.

Prerequisites

- Python version 3.11.9 and above

Instructions

Task 1 Running the Echo Server

1. Download the UDP echo server script `udp_echo_server.pyc`.

2. To start the Echo Server From the command line, execute:

```
python udp_echo_server.pyc
```

Hint: if you are having issues running the pyc file due to python version difference, you can try running the attached `udp_echo_server.exe` file instead.

Task 2 UDP Client Python Script

3. Write a UDP client script that:
   - Prompts the user to enter a message using `input()`.
   - Creates a UDP socket using `socket.socket()` with `socket.SOCK_DGRAM` as the socket type.
   - Sends the user's message to the server using `socket.sendto()`, on port 5000.
   - Receives the server's echoed response using `socket.recvfrom()` and prints it to the screen.
   - Closes the socket using `socket.close()`.

Make sure to test your `udp_echo_client.py` against the provided `udp_echo_server.pyc` to ensure it functions as expected.

Hint: UDP is a connectionless protocol, so you don't need to establish a persistent connection like in TCP. Simply create a UDP socket, send the message using `sendto()`, and receive the response using `recvfrom()`.

Example Usage and Output

Example of how the UDP echo client script should run:

```
python udp_echo_client.py
```

Example output of the UDP echo client script:

```
Enter a message to send to the server: Hello, UDP
Echo Server!
Received response from server: Hello, UDP Echo
Server!
```

To Submit

Submit your code in a python script named "udp*echo*client.py"