1. Python - Sockets

```python
#!/usr/bin/env python3

import socket

HOST = '127.0.0.1'  # Standard loopback interface address (localhost)

PORT = 65432        # Port to listen on (non-privileged ports are > 1023)

with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:

    s.bind((HOST, PORT))

    s.listen()

    conn, addr = s.accept()

    with conn:

        print('Connected by', addr)

        while True:

            data = conn.recv(1024)

            if not data:

                break

            conn.sendall(data)
```

- Copy the following code into a file named **echo-client.py**:

```python
#!/usr/bin/env python3

import socket

HOST = '127.0.0.1'  # The server's hostname or IP address

PORT = 65432        # The port used by the server

with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:

    s.connect((HOST, PORT))

    s.sendall(b'Hello, world')

    data = s.recv(1024)

print('Received', repr(data))
```

- Open a terminal. Start the server by running the following command in a terminal:

```
python3 echo-server.py
```

- Open a second terminal. Start the client by running the following command in the terminal:

```
python3 echo-client.py
```

The client and server will now talk with one another.

Questions

1. In relation to echo-server.py, what is achieved using the command: `s.bind((HOST, PORT))` ?
2. In relation to echo-client.py, what is achieved using the command: `s.connect((HOST, PORT))` ?

Running the code lead to the solution that the command s.bind((HOST, PORT)) binds the client with a new device. This command is used to get a connection between both communicating partners.

The command s.conncet ((HOST, PORT)) enables the communication between the client and the device.