Lab 4: Broadcast Programming

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1 Questions

1.1 Creating a UDP socket

```
if ((new_socket = socket(AF_INET, SOCK_DGRAM, 0)) < 0){
   perror("Socket creation failed!");
   exit(EXIT_FAILURE);
}
```

The above code is how you create a UDP socket in C/C++. While it looks eerily familiar to creating a TCP socket, there is a difference.

1.1.1 What does SOCK_DGRAM mean when creating a socket?

1.2 Connecting UDP sockets

1.2.1 Out of the connection functions shown in the TCP socket assignment, the only one required for a UDP socket is bind(). Why is this?

1.3 Reading and Writing Data Over UDP Sockets

In C/C++, you can only use 2 functions to send and receive data over a UDP socket. These functions are sendto()/recvfrom().

1.3.1 How do sendto() and recvfrom() exchange data over two UDP sockets?

1.4 Creating a Broadcast Application

1.4.1 Now that you know the differences between programming a TCP socket and a UDP socket, you will now create a broadcast program that will send the CPU usage percentage over the network in the language of YOUR choice.

HINT: Modify your code from the previous labs to make your life less painful in this assignment.