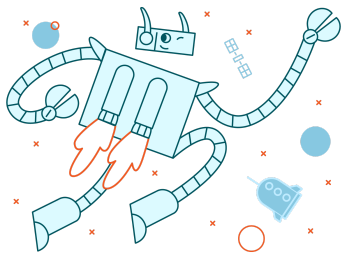
Porto Ricco



Background

In this exercise, you will explore the world of ports and protocols, two essential concepts in computer networking. You'll learn about the differences between UDP and TCP, and how they are used by various applications to communicate over the internet.

Tasks

Task 1: Why Ports? 🤔

Answer the following questions about ports:

1. Why do we need port numbers? Why are IP addresses not enough?
2. For each of the following statements, write True/False and explain why:
    - When a client connets to a server, the source and destination port of the request are the same
    - When a client connects to a server, the destination port of the request is different every time
    - When a client connects to a server, the source port of the request is (usually) different every time
    - When multiple clients connect to a server, the destination port of the request is different for each client
    - When multiple clients connect to a server, the source port of the request is (usually) different for each client

Task 2: UDP vs. TCP Comparison 📊

Fill in the table with the characteristics of UDP and TCP:

Characteristic	UDP	TCP
Connection-oriented?		
Reliable?		
Ordered?		
Speed (Fast/Slower)		
Overhead (High/Low - how much additional metadata/processing there is)		

Task 3: Application Examples 📱💻

For each application in the table below, decide whether UDP or TCP would be more suitable and explain why. Add one real or fictional application that uses UDP and another that uses TCP to the table.

Application	Protocol (UDP/TCP)	Explanation
Video streaming		
Email		
Online multiplayer game		
File transfer		
Live audio streaming		
Web browsing		
(Your UDP application)	UDP	
(Your TCP application)	TCP	

For your UDP and TCP applications, provide a brief description of the application and explain why you chose the respective protocol.

Task 4: Common Port Numbers and Their Uses 🔢

Fill in the table with the port numbers, their commonly associated services or protocols, and a brief description of what the service is used for. You can use the List of TCP and UDP port numbers - Wikipedia as a resource.

Port Number	Service/Protocol	What is this service/protocol used for?
20, 21		
22		
23		
25		
53		
80		
443		

To submit

A text file with your answers.

Sentinel