CN LAB 3

21K-3153

Task 1:

A diagram of a network

Description automatically generated

Task 2:

PCs, which refer to desktops or laptops, perform various tasks such as running applications and managing data transmission, including sending and receiving data.

Servers handle tasks like web hosting, file storage, and responding to client requests.

Switches enable devices within a local area network to communicate by forwarding data packets to their destinations efficiently. Links represent both physical and logical connections between devices in a network.

In Packet Tracer, switches operate at the data link layer (Layer 2) of the OSI model and use MAC addresses to direct data to the correct destination. They build MAC address tables to efficiently route traffic only to necessary ports, reducing network congestion and enhancing security.

Hubs operate at the physical layer (Layer 1) and broadcast data to all connected devices indiscriminately. This means all devices connected to a hub receive all packets, leading to increased network collisions and decreased performance compared to switches.

Task 3:

Physical mode encompasses the actual hardware or physical components of a network, like cables, routers, switches, hubs, and other infrastructure. It involves the tangible aspects of networking, including device layout, cable types, and connections.

Logical mode deals with how data is organized, managed, and transmitted within a network. It focuses on logical addressing, routing protocols, data encapsulation, and how data is exchanged between devices.