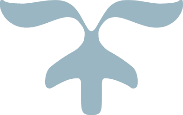


COMPUTER NETWORKS LAB ONE REPORT



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# Introduction to Packet Tracer

## Cisco Packet Tracer Overview

Cisco Packet Tracer is a network simulation tool that allows users to design, configure, and troubleshoot network topologies virtually. This software is widely used for educational purposes to gain hands-on experience in network design and management.

* **Installation**: Ensure Cisco Packet Tracer is installed on your computer. If not, download it from the Cisco Networking Academy website.
* **User Interface**: Upon opening Packet Tracer, familiarize yourself with the various tools and components available. The main components include the workspace, device selection panel, and simulation mode options.

# Peer-to-Peer Communication Setup

## Network Configuration

### Creating a New Network:

* + Open Packet Tracer and create a new workspace.

### Adding Devices:

* + Drag and drop two PCs from the device selection panel into the workspace.

### Connecting Devices:

* + Use a copper straight-through cable to connect the FastEthernet0 port of PC0 to the FastEthernet0 port of PC1.

### Configuring IP Addresses:

* + **PC0**:
    - IP Address: 192.168.1.1
    - Subnet Mask: 255.255.255.0
  + **PC1**:
    - IP Address: 192.168.1.2
    - Subnet Mask: 255.255.255.0

### Testing Connectivity:

* + Open the command prompt on PC0.
  + Use the command ping 192.168.1.2 to test connectivity to PC1.

# Study of Network Cables and Color Codes

## Types of Network Cables

### Copper Straight-Through Cables:

* + **Purpose**: Used to connect devices to network switches or routers.

### Color Code:

* + - **T568A**:
      * Pin 1: White/Green
      * Pin 2: Green
      * Pin 3: White/Orange
      * Pin 4: Blue
      * Pin 5: White/Blue
      * Pin 6: Orange
      * Pin 7: White/Brown
      * Pin 8: Brown

### T568B:

* + - * Pin 1: White/Orange
      * Pin 2: Orange
      * Pin 3: White/Green
      * Pin 4: Blue
      * Pin 5: White/Blue
      * Pin 6: Green
      * Pin 7: White/Brown
      * Pin 8: Brown

### Copper Crossover Cables:

* + **Purpose**: Used to connect two similar devices directly (e.g., PC to PC).

### Color Code:

* + - **T568A** on one end and **T568B** on the other end.

### Fiber Optic Cables:

* + **Purpose**: Used for high-speed and long-distance communication.
  + **Types**: Single-mode and Multi-mode, distinguished by their core size and the type of light they carry.

## Purpose and Use

* **Straight-Through Cables**: Connect devices like PCs to network devices like switches or routers.
* **Crossover Cables**: Directly connect similar devices such as two PCs or two switches without an intermediary device.
* **Fiber Optic Cables**: Provide high-speed, long-distance connections between network devices.

**Screenshots**

