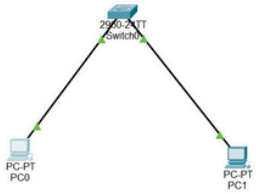
# computer networking Assignment

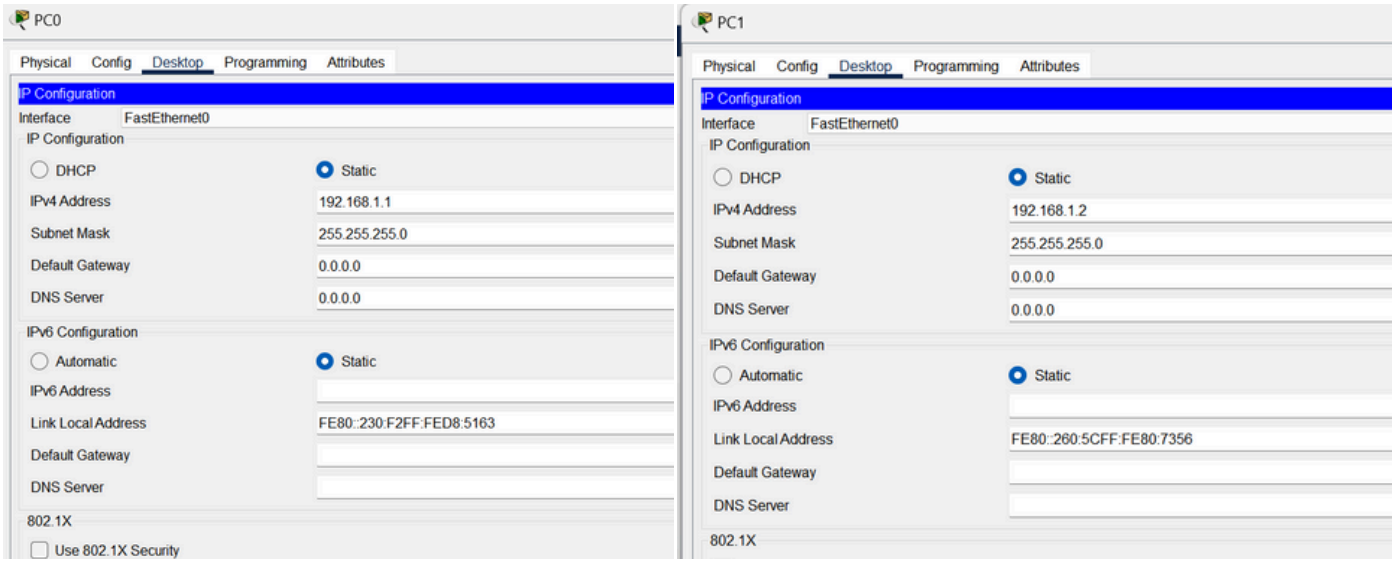
- **To set up a peer-to-peer (P2P) communication network.**

- Add two PCs to the workspace.

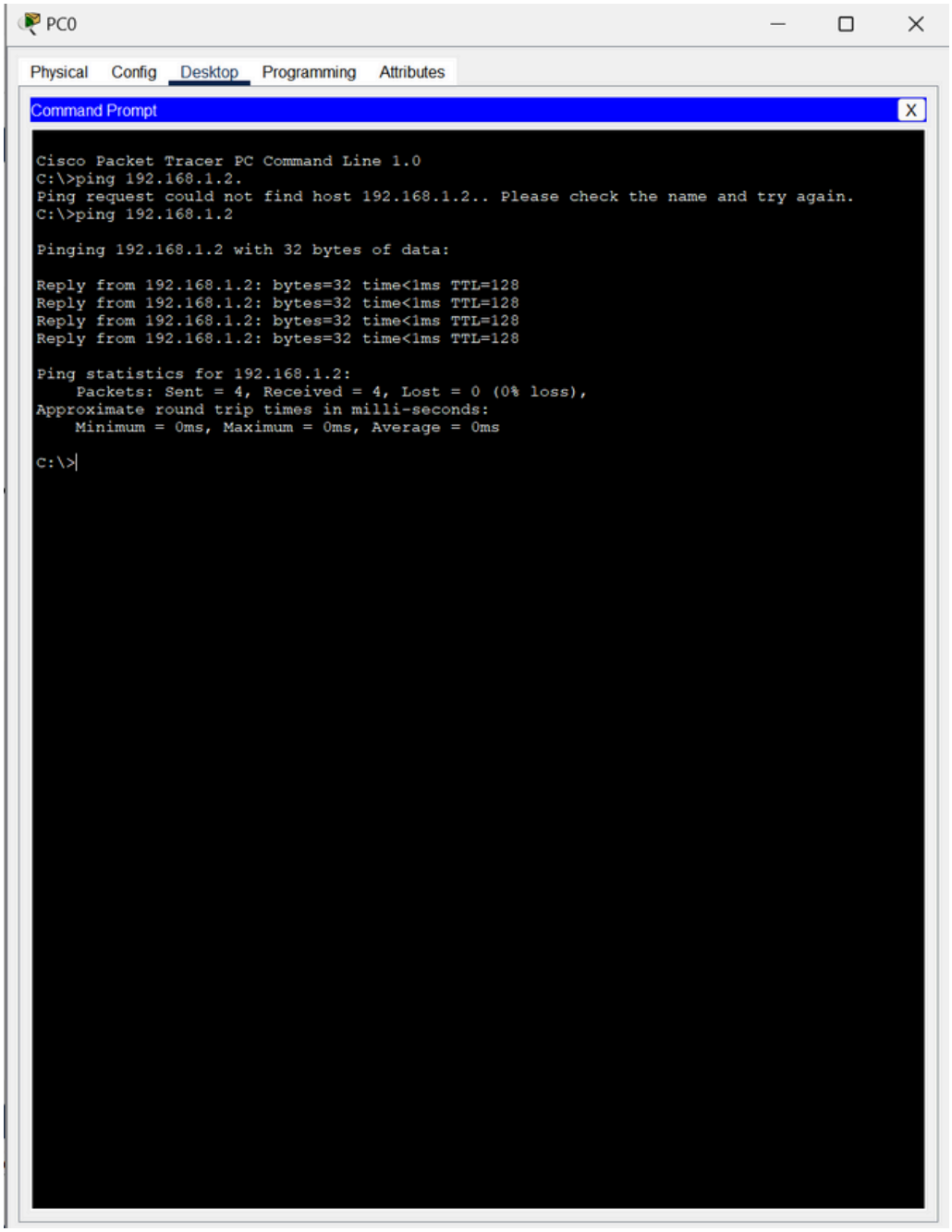



- Use a copper straight-through cable to connect the FastEthernet0 port of PC0 to the FastEthernet0 port of PC1.

- Assign IP addresses to both PCs:
- 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



- Open the command prompt on PC0 and ping PC1 using the command ping 192.168.1.2.



# Research and document the different types of network cables used in computer networking

Copper Cables

1. Straight-Through Cable
   - Use: Connecting different types of devices, such as a computer to a switch or router.
   - Wiring: Same at both ends.

1. Crossover Cable
   - Use: Connecting similar devices directly, such as computer to computer or switch to switch.
   - Wiring: Different at each end, with some wires "crossed over."

1. Coaxial Cable
   - Use: Often used for cable internet connections.
   - Structure: Consists of a central conductor, insulating layer, metallic shield, and outer insulating layer.

1. Twisted Pair Cable
   - Types:
     - Unshielded Twisted Pair (UTP): Common in Ethernet networks.
     - Shielded Twisted Pair (STP): Provides more protection against interference.

Fiber Optic Cables

1. Single-Mode Fiber (SMF)
   - Use: Long-distance telecommunications.
   - Core Diameter: Smaller core (typically 8-10 microns).
2. Multi-Mode Fiber (MMF)
   - Use: Shorter distance communication.
   - Core Diameter: Larger core (typically 50-62.5 microns).

A**ddStandard Color Codes for Copper Cables**

Straight-Through Cable (TIA/EIA 568A and 568B)

568A Standard:

- 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

568B Standard:

- 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

Crossover Cable

- One End (568A):
  - 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
- Other End (568B):
  - 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

**Summary**

- Copper Straight-Through: Uses either TIA/EIA 568A or 568B standards. Both ends are wired identically.
- Copper Crossover: One end wired as 568A and the other as 568B to allow for direct device-to-device connections.
- Fiber Optic Cables: Used for higher-speed and longer-distance connections, with single-mode and multi-mode variants.

If you need further details on a specific type of network cable or additional standards, feel free to ask!

a little bit of body text