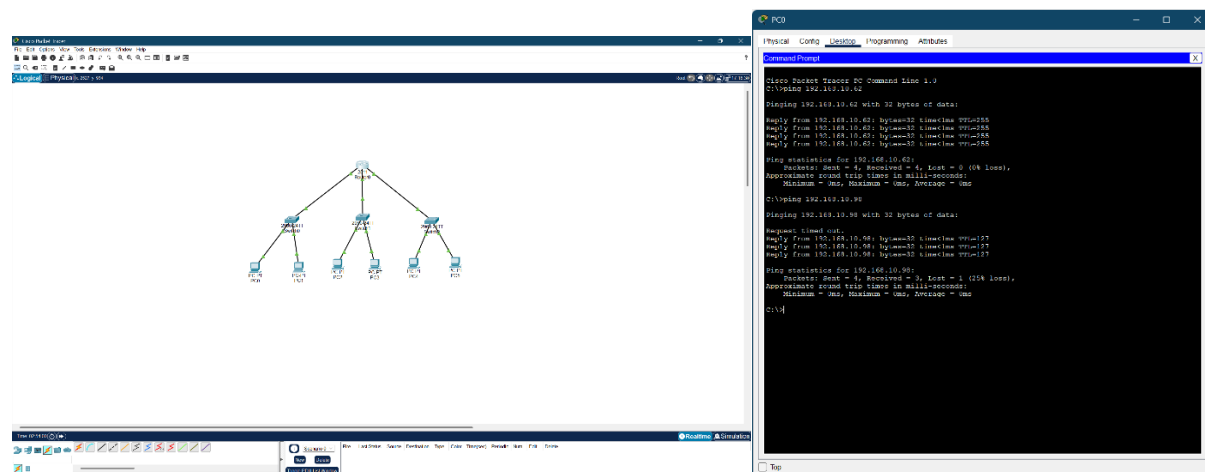| EXP:09	Implementation of SUBNETTING in CISCO PACKET TRACER simulator

Aim

To implement and simulate **Subnetting** in the CISCO PACKET TRACER simulator and observe packet transmission across subnets.

Algorithm / Procedure

1. **Design** a network topology requiring multiple subnets (e.g., a single class C network divided into two or more subnets).
2. **Calculate** the subnet mask, network address, and host address range for each subnet.
3. **Assign** static IP addresses and the calculated subnet mask to hosts in each subnet.
4. **Connect** the subnets using a **Router**.
5. **Simulate** packet transmission:
    – Between hosts in the same subnet (should succeed).
    – Between hosts in different subnets **connected via a router** (should succeed).
    – Between hosts in different subnets **without a router** (should fail).

Output

Result

Subnetting was successfully implemented and configured in Cisco Packet Tracer. The simulation verified that communication between different subnets requires a Layer 3 device (Router), while communication within a subnet does not.