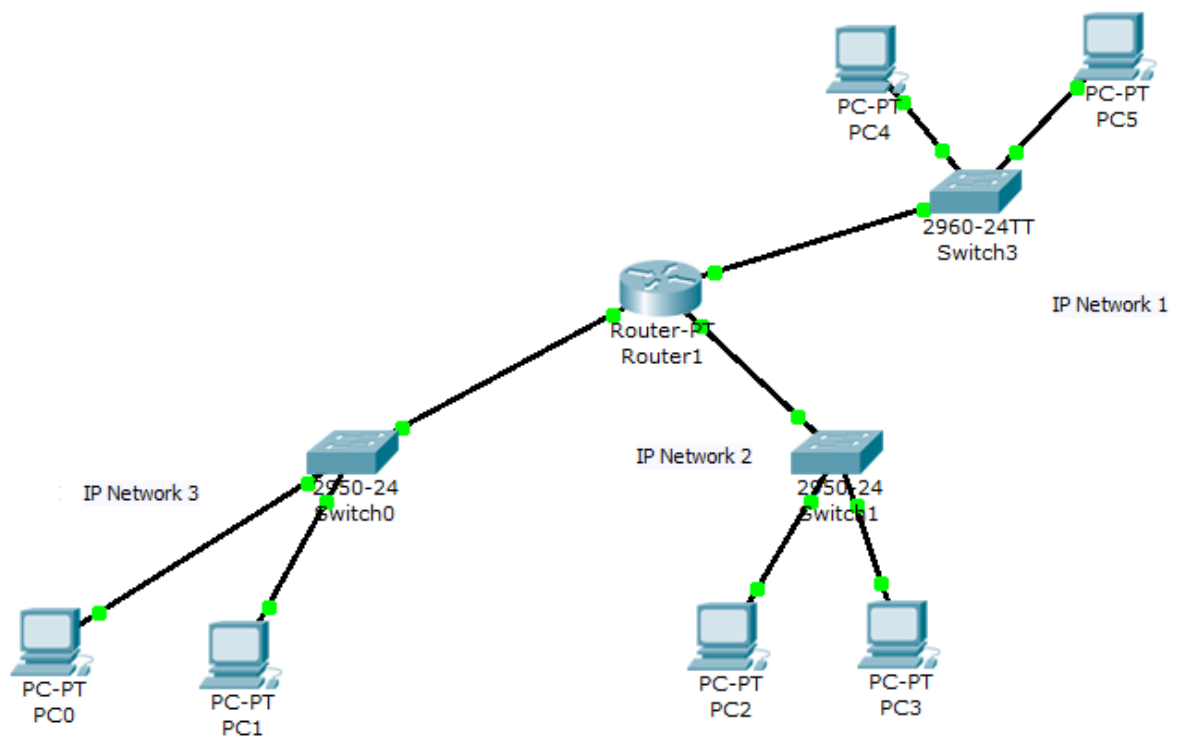


## IP Subnetting Exercise

**Q1.** Given the IP address 192.168.1.0 and the subnet mask 255.255.255.0, you have been asked to create an IP addressing scheme where each subnet has a minimum of 18 IP addresses. Answer the following

- (i) What is the new subnet mask?
- (ii) How many subnets are created?
- (iii) How many useable IP addresses are available per subnet?
- (iii) Assuming the use of subnet zero what is the range of useable IP addresses for the 3rd subnet?

**Q2.**



1. Your company ABC Ltd. has a network topology as shown above. You must design an IP Addressing scheme that caters for 50 hosts in the Finance dept. (IP Network 1), 20 hosts in the HR dept. (IP Network 2) and 70 hosts in the Production dept. (IP Network 3). The company is using the private Address space 192.168.1.0 /24.

When you have designed the IP addressing scheme you must then create the network in PacketTracer (as shown above), assign a correct IP address to each device. If you have configured the IP addresses correctly every device should be able to ping every other device.

**Note:** You should assign the first IP address in the subnet to the Router's network interface card.