Step 1: Problem Breakdown

Main Problem: Set Up a Small Computer Network (LAN – Local Area Network)

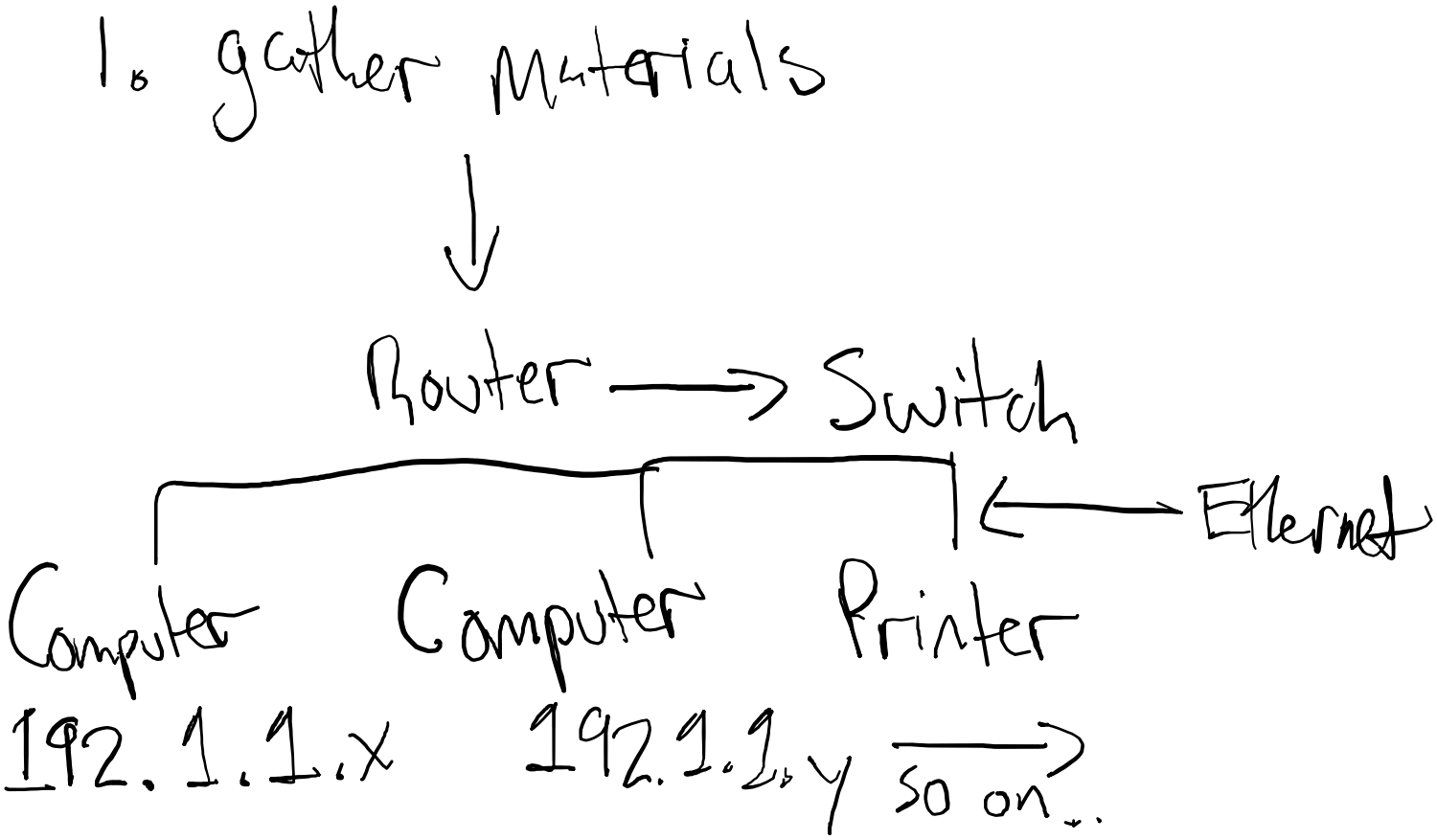
List of Subtasks (at least 6–8):

1. Gather materials used to create network: Router, switch (it's optional – but it allows for more connections), ethernet cables, and the computers or devices being connected.
2. Place the router in a location easily accessible to the rest of the devices.
3. Connect a switch to the network (for scaling purposes)
4. Connect the devices to the router using the ethernet cables.
5. Connect
6. Turn on the devices, and confirm each device has a valid IP address.
7. Assign static IPs
8. Test the network by pinging one device from another device (to check latency)
9. Secure the network using WPA3 protocol

Step 2: Hierarchy / Tree Diagram

Use the space below to draw your decomposition diagram. Show subtasks branching from the main problem. Indicate dependencies with arrows if needed.

(drawing space)



Step 3: Reflection

What was one tricky dependency your group identified? Why was it tricky?

For the LAN to work, all the devices on the network need to be connected using ethernet cables to a central router or switch. The required tool for these devices to properly communicate with each other is the router.

How might the decomposition of this problem relate to designing a software system?

When creating a software system, you don't write the whole code at once you break it down into smaller pieces that you can handle. Decomposition you break down the problem so you can handle the problem in small increments. In this case we need to make sure everything works together just like a code would have to in a software.

What did your group find most useful about breaking the problem down?

Breaking the problem down allows us to understand the process of creating this LAN more thoroughly. It allows for no vulnerabilities to be left unnoticed.