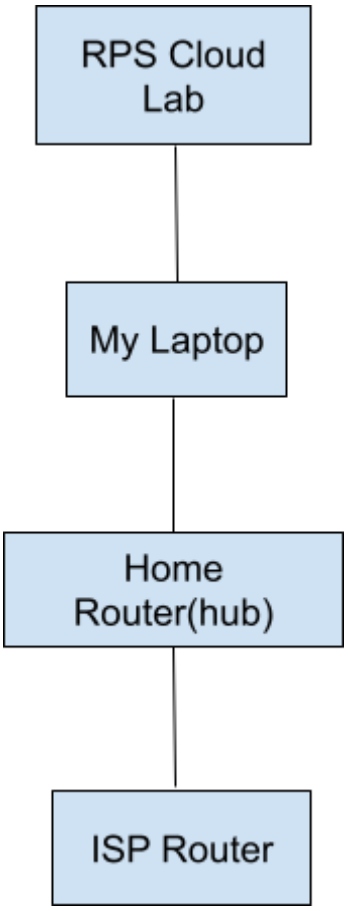
Day 1
Assignment 1 :

Star Topology is a fit for the described scenario. Below is the diagram and explanation:



Here,
All the devices are connected to a Hub(Home Router), which manages the traffic between the devices and the internet, allowing us to access the RPS cloud lab over the internet through the ISP router. This cloud lab is accessed by us through My Laptop which is connected to the Hub.

Assignment 2:

a) Parallel Computing example: Machine Learning Training

In machine learning training, parallel computing is employed to accelerate the training process of complex models using large datasets. This is achieved by distributing the computational workload across multiple processors or GPUs. Each processor or GPU works on a subset of the data or a portion of the model parameters simultaneously, speeding up the training process.

For example, when training a deep neural network for image recognition, parallel computing allows different parts of the network to be trained concurrently on different subsets of

the training data. This significantly reduces the time required to train the model compared to sequential processing.

b) Networked Systems: Social Media

In social media platforms like Facebook or Twitter, networked systems play a crucial role in connecting users, facilitating interactions, and delivering content. These platforms utilize networked systems to handle user requests, store and retrieve data from databases, and maintain real-time communication between users.

For instance, when a user posts a status update on Facebook, networked systems handle the request to update the user's profile, store the post in the database, and deliver it to the user's followers' news feeds in real-time. Additionally, networked systems enable features such as instant messaging, notifications, and content sharing among users across different devices and locations.

So to sum up, parallel computing enhances computational performance, while networked systems enable seamless connectivity and communication, both of which are important for modern computing.