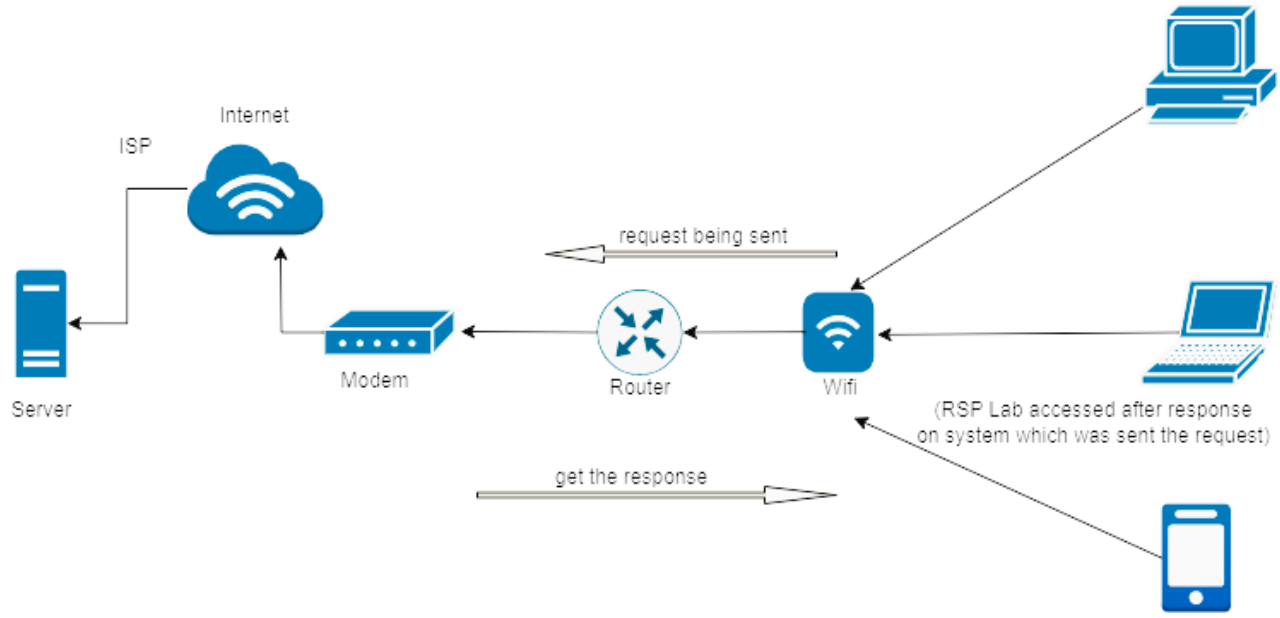
Assignment-1 (Networking)

Draw your Home Network Topology and explain how you are accessing the RPS Lab environment.

The most suitable network topology for a **home network** is the **Star Topology**. In a Star Topology, each peripheral device (like computers, printers and smartphones) connects to a central hub or switch, which makes it easy to manage the network from a single location. It makes it easy to manage the network from a single location. Additionally, the Star Topology allows for easy troubleshooting and maintenance, as issues with one device do not affect the entire network.

A diagram of **Home Network Topology** is given below:



HOME NETWORK TOPOLOGY

The diagram above shows that:

- The Website Server is the server hosting the RPS Lab environment, providing access to network resources and services. The ISP (Internet Service Provider) connects the home network to the internet, enabling communication with external networks.
- The Modem serves as the gateway between the home network and the ISP network. That device changes information from within our house networking system to outside world through an ISP network.
- A device called "Router" manages the flow of information between different devices within the home network within our house to the internet.
- Wireless devices such as computer or phones use "Wi-Fi Access Point" housed in our house to stay linked without need for physical connections.

How does it work?

The access the RSP Lab environment, we open a web browser either from PC or any other preferred device that is connected to our home network and then enter the URL or IP address provided then our device sends a request. This request travels from our router to the modem, which then forwards it to the ISP's network. The network of the ISP then directs this request to the server of RPS Lab. The server processes the request and sends back a response, following the same path in reverse.