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| **Subject** | Computer Communication and Networks (CCN) |
| **Experiment No.** | 10 |
| **Aim** | The objective of this lab exercise is to create a realistic virtual network using Mininet, a tool for emulating network environments. |
| **Procedure** | **Step 1: Introduction to Mininet**  Mininet is a popular open-source network emulator used for creating virtual networks for testing and development purposes. It allows users to create complex network topologies using virtualized network devices such as switches, routers, and hosts. Mininet runs on a single machine and utilizes lightweight virtualization techniques to simulate a network environment.  **Step 2**: **Installation and Setup**  **Step 3: Sample Workflow**   1. After starting Mininet, you will be presented with a Mininet prompt (`mininet>`). 2. Create a simple network topology using the following command: mininet> h1 = net.addHost('h1')   mininet> h2 = net.addHost('h2') mininet> s1 = net.addSwitch('s1') mininet> net.addLink(h1, s1) mininet> net.addLink(h2, s1)   1. Start the network: mininet> net.start() 2. Test connectivity between hosts: mininet> h1 ping h2       **Step 4: Walkthrough Follow a walkthrough tutorial provided on the Mininet website or other online resources to understand more complex network topologies and configurations.**   * **Creating custom topologies:**      Step 5: Overview  * To See Configuration of Hosts Used ifconfig command      * To ping all hosts(Broadcast) we can use Pingall command      * Dump information about all nodes:      * Display nodes:      * To print Process list use ps command:     Link variations Mininet 2.0 allows you to set link parameters, and these can even be set automatically from the command line:   * sudo mn --link tc,bw=10,delay=10ms * h1 ping -c10 h     Link Up/Down  For fault tolerance testing, it can be helpful to bring links up and down. To disable both halves of a virtual ethernet pair:   * link s1 h1 down You should see an OpenFlow Port Status Change notification get generated. To bring the link back up: * link s1 h1 up |
| **Conclusion** | Hence, by completing this experiment I came to know about Mininet. |