Assignment B3

- Title: Configure RIP / OSPF / BGP using packet tracer.

- Requirements:
  Wireshark Packet Analyzer Tool.

- ~~Theory~~: S/w & H/w Requirements
  Intel i5 +
  ~~Dyn~~ 8GB RAM, HDD
  Os (Linux / Windows)

- Theory:
  Dynamic Routing Protocols:
  Most routing protocols implement a shortest path algorithm, which for a given set of routers, determines the shortest path between the routers

  RIP is the simplest and one of the oldest Distance vector routing protocol It is very easy to setup & troubleshoot.

  Packet tracer is a cross platform visual simulation tool designed by Cisco Systems that allows users to create network topologies & imitate modern computer networks.

In addition to simulation, Packet Tracer can also be used for collaboration.
As of Packet Tracer 5.0, it support a multi-user system that enables multiple topologies together over a computer network.

Create a topology following the steps:-

1) Assign IP address to PC0
   a) Double click on PC0.
   b) Go to desktop config & set
      IP - 192.168.1.2
      Subnet Mask - 255.255.255.0
      Default Gateway - 192.168.1.1

2) Assign IP Address to PC1
   a) Double click on PC1
   b) Go to desktop config & set
      IP addr - 192.168.2.2
      Subnet Mask - 255.255.255.0
      Default Gateway: 192.168.2.1

Now we have to configure Routers:
Config of Router 0
Steps:
1. Double click on Router 0
2. Go to Config/fast/Ethernet 0/0 & set
   IP - 192.168.1.1

3. Enable 'ON' button & close it

Configuration of Router 1

1. Double click on Router 1
2. Go to Config/ interface /fastEthernet 0/n & set
   IP - 192.168.1.0
3. Enable 'ON' button & close it.

Pick packet from right side toolbar & drop on PC0 & PC1. Due to unknown network packets cant transform from PC0 to PC1, so we have to set RIP by clicking on Router 0

- Configuration of RIP for Network 1
  1. Go to routing / select RIP
  2. Mention add network - 192.168.1.0 & 10.0.0.0
  3. Go to setting & save the configuration.

- Configuration of RIP for Network 2
  1. Go to routing /select RIP.
  2. Mention/add network -192.168.2.0 & 10.0.0.0
  3. Go to setting & save the configuration.

Now check packet transferring from PC0 to PC1 by clicking on Simulation mode. Click on capture/forward button & analyze the packet transformation.

- Conclusion:-

We have successfully designed topology with different network devices by using packet tracer simulator & analyzed packet transmission from different devices to different devices by using RIP protocol.