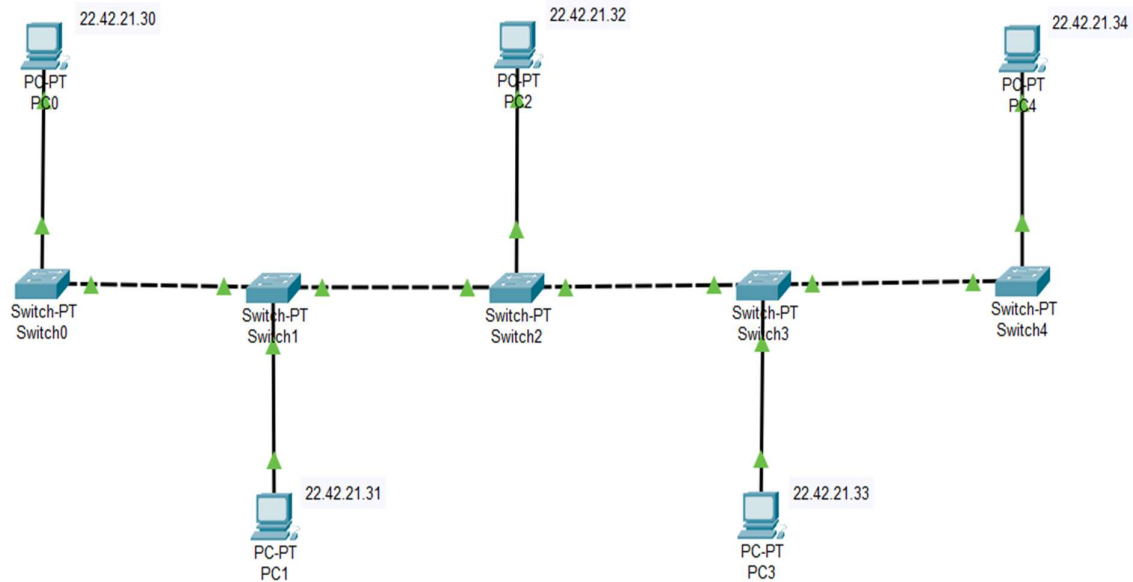Name: M L Ravindra
Roll No.: AM.EN.U4ECE22130

Assignment – 1

(Q) Build a simple LAN using 5 packets. Implement each topology separately and show the packet transmission statistics using cisco packet tracer.
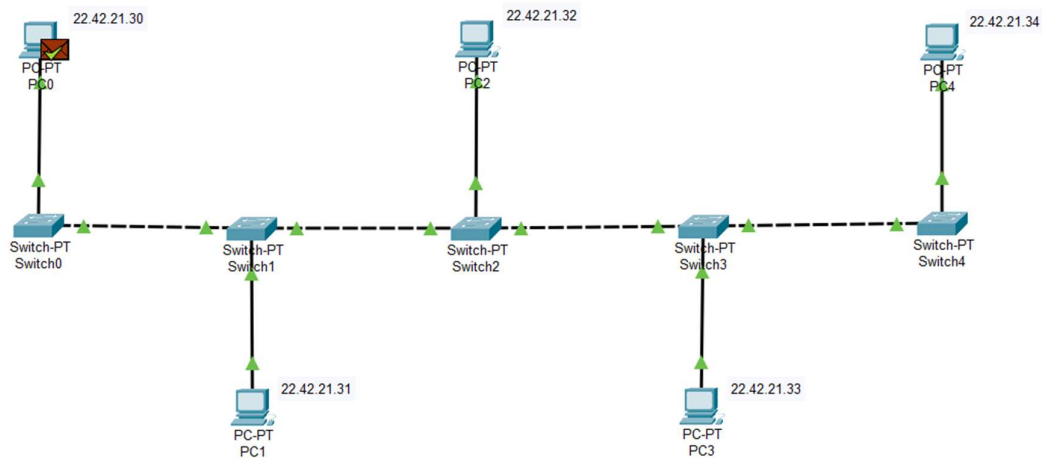
   i.   Bus Topology:


```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 22.42.21.33

Pinging 22.42.21.33 with 32 bytes of data:

Reply from 22.42.21.33: bytes=32 time=8ms TTL=128
Reply from 22.42.21.33: bytes=32 time<1ms TTL=128
Reply from 22.42.21.33: bytes=32 time<1ms TTL=128
Reply from 22.42.21.33: bytes=32 time=10ms TTL=128

Ping statistics for 22.42.21.33:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 10ms, Average = 4ms

C:\>
```
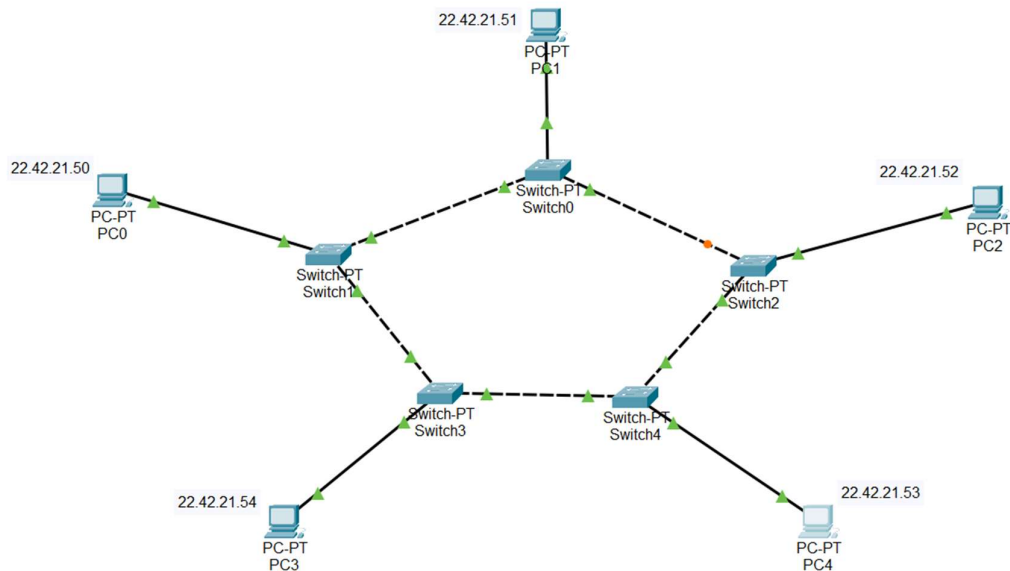
22.42.21.30 — PC-PT PC0
22.42.21.32 — PC-PT PC2
22.42.21.34 — PC-PT PC4
22.42.21.31 — PC-PT PC1
22.42.21.33 — PC-PT PC3

Switch-PT Switch0, Switch-PT Switch1, Switch-PT Switch2, Switch-PT Switch3, Switch-PT Switch4

ii. Ring Topology

22.42.21.51 — PC-PT PC1
22.42.21.50 — PC-PT PC0
22.42.21.52 — PC-PT PC2
22.42.21.54 — PC-PT PC3
22.42.21.53 — PC-PT PC4

Switch-PT Switch0, Switch-PT Switch1, Switch-PT Switch2, Switch-PT Switch3, Switch-PT Switch4
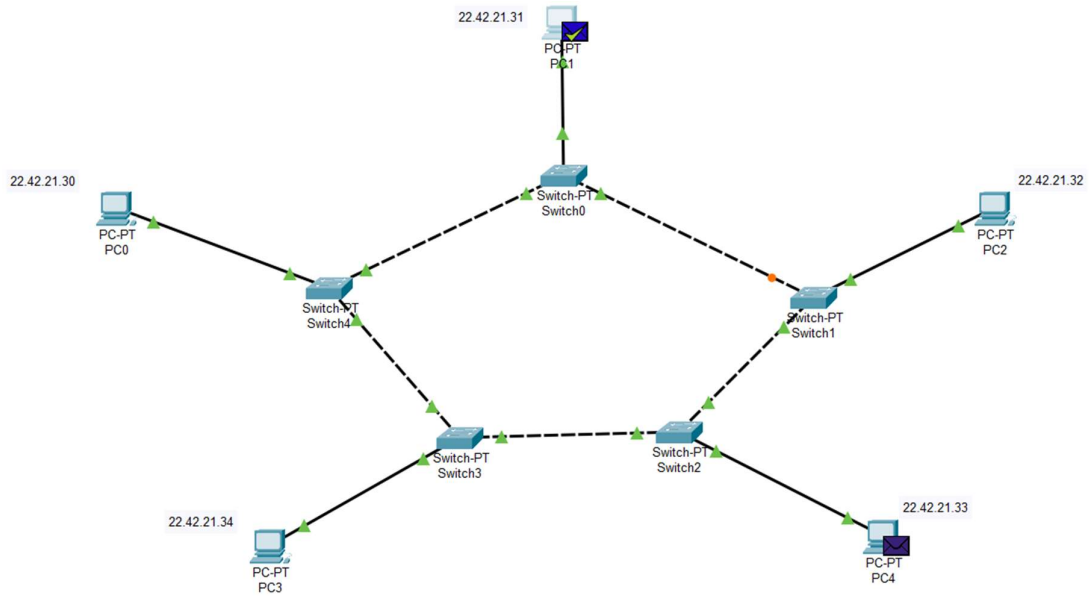
```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 22.42.21.33

Pinging 22.42.21.33 with 32 bytes of data:

Reply from 22.42.21.33: bytes=32 time=10ms TTL=128
Reply from 22.42.21.33: bytes=32 time=10ms TTL=128
Reply from 22.42.21.33: bytes=32 time=10ms TTL=128
Reply from 22.42.21.33: bytes=32 time=10ms TTL=128

Ping statistics for 22.42.21.33:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 10ms, Maximum = 10ms, Average = 10ms

C:\>
```
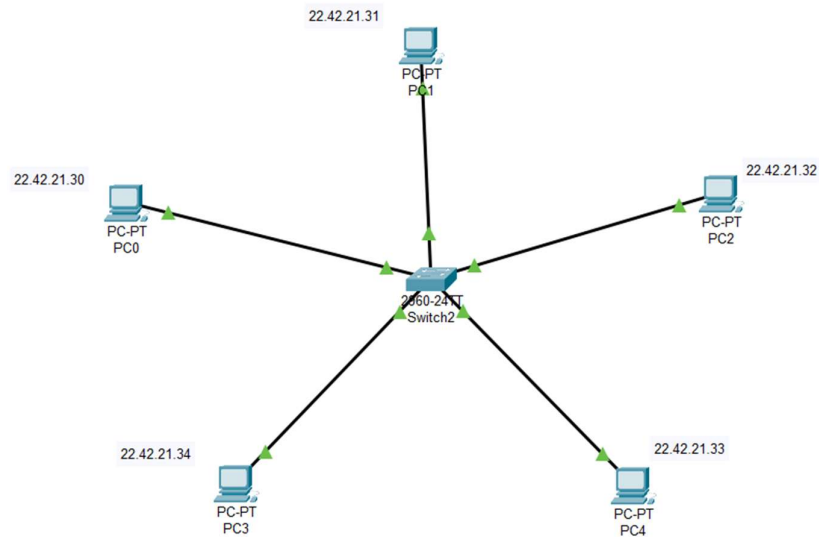
22.42.21.31
PC-PT
PC1

22.42.21.30
PC-PT
PC0

Switch-PT
Switch0

22.42.21.32
PC-PT
PC2

Switch-PT
Switch4

Switch-PT
Switch1

Switch-PT
Switch3

Switch-PT
Switch2

22.42.21.34
PC-PT
PC3

22.42.21.33
PC-PT
PC4

iii.   Star Topology

22.42.21.31
PC-PT
PC1

22.42.21.30
PC-PT
PC0

22.42.21.32
PC-PT
PC2

2960-24TT
Switch2
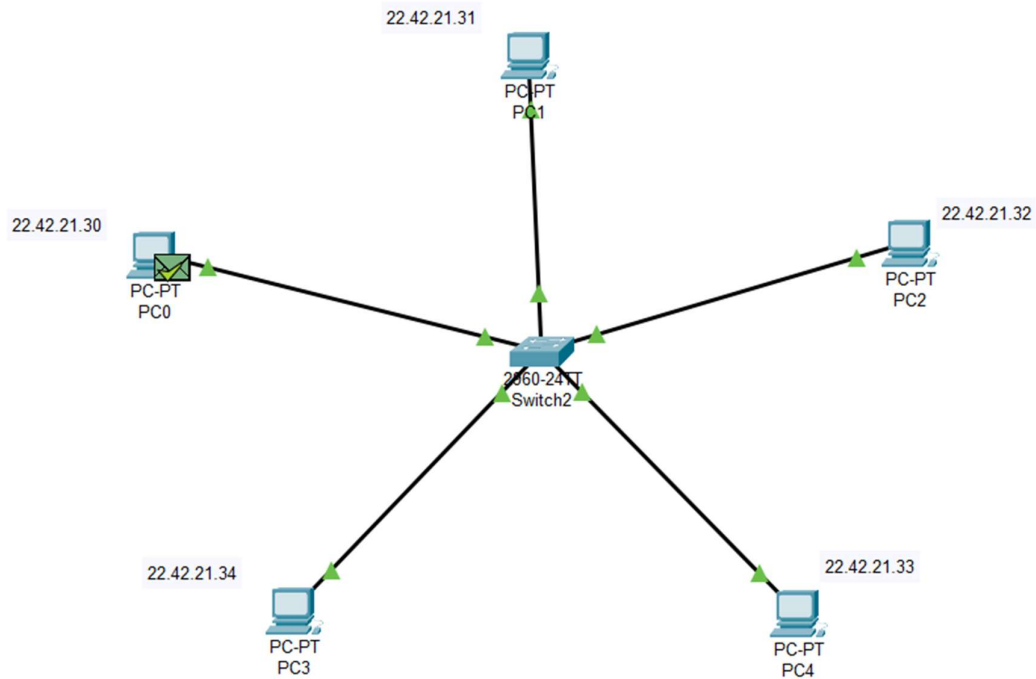
22.42.21.34
PC-PT
PC3

22.42.21.33
PC-PT
PC4

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 22.42.21.32

Pinging 22.42.21.32 with 32 bytes of data:

Reply from 22.42.21.32: bytes=32 time=18ms TTL=128
Reply from 22.42.21.32: bytes=32 time<1ms TTL=128
Reply from 22.42.21.32: bytes=32 time<1ms TTL=128
Reply from 22.42.21.32: bytes=32 time<1ms TTL=128

Ping statistics for 22.42.21.32:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 18ms, Average = 4ms
```
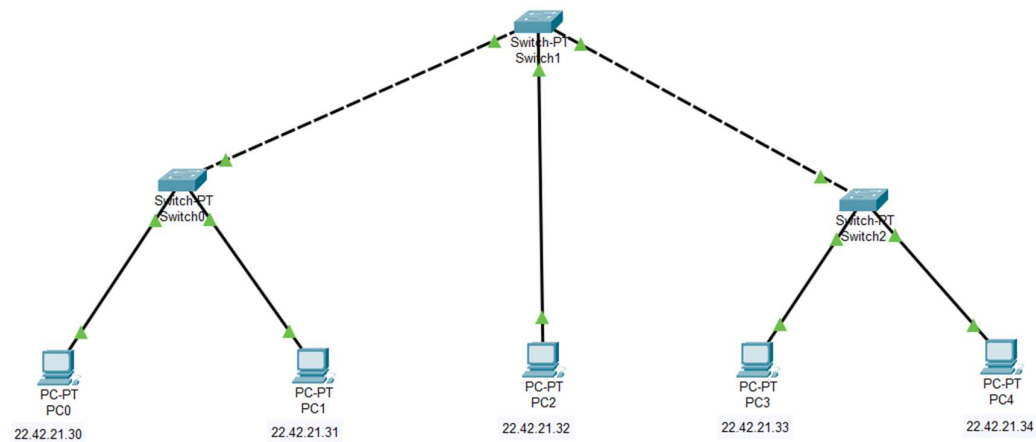
22.42.21.31

PC-PT
PC1

22.42.21.30

PC-PT
PC0

22.42.21.32

PC-PT
PC2

2960-24TT
Switch2

22.42.21.34

22.42.21.33

PC-PT
PC3

PC-PT
PC4

iv.   Tree / Hierarchical Topology

Switch-PT
Switch1

Switch-PT
Switch0

Switch-PT
Switch2

PC-PT
PC0

22.42.21.30

PC-PT
PC1

22.42.21.31

PC-PT
PC2

22.42.21.32

PC-PT
PC3

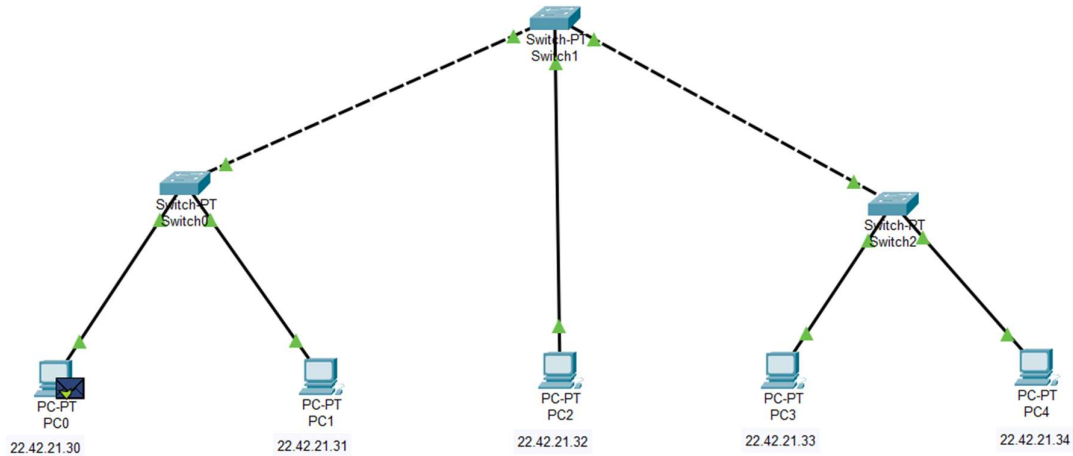22.42.21.33

PC-PT
PC4

22.42.21.34

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 22.42.21.32

Pinging 22.42.21.32 with 32 bytes of data:

Reply from 22.42.21.32: bytes=32 time<1ms TTL=128
Reply from 22.42.21.32: bytes=32 time<1ms TTL=128
Reply from 22.42.21.32: bytes=32 time=13ms TTL=128
Reply from 22.42.21.32: bytes=32 time<1ms TTL=128

Ping statistics for 22.42.21.32:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 13ms, Average = 3ms
```
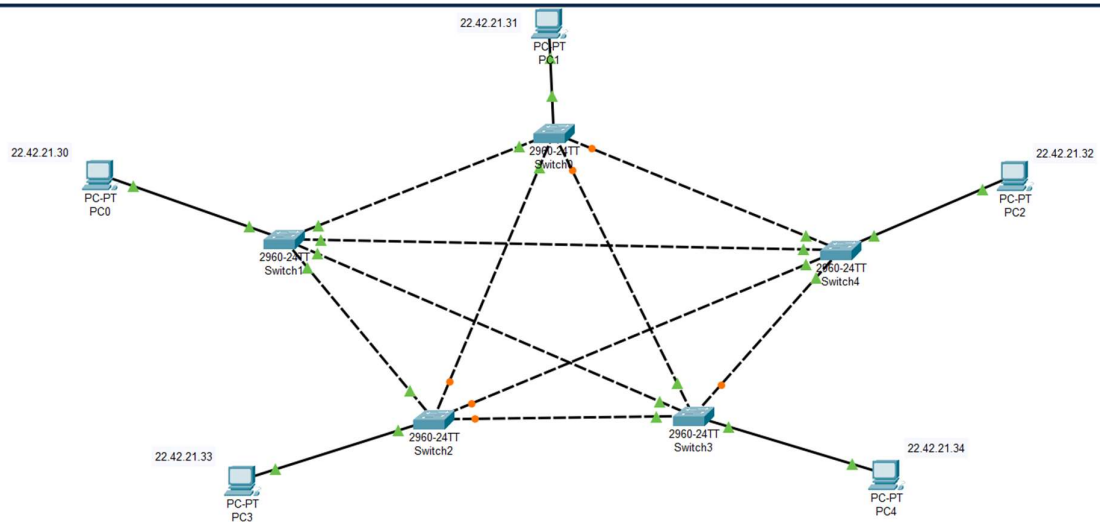
Switch-PT
Switch1

Switch-PT
Switch0

Switch-PT
Switch2

PC-PT
PC0
22.42.21.30

PC-PT
PC1
22.42.21.31

PC-PT
PC2
22.42.21.32

PC-PT
PC3
22.42.21.33

PC-PT
PC4
22.42.21.34

v.   Mesh Topology

22.42.21.31
PC-PT
PC1

22.42.21.30
PC-PT
PC0

2960-24TT
Switch0

22.42.21.32
PC-PT
PC2

2960-24TT
Switch1

2960-24TT
Switch4

22.42.21.33
PC-PT
PC3

2960-24TT
Switch2

2960-24TT
Switch3

22.42.21.34
PC-PT
PC4

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 22.42.21.33

Pinging 22.42.21.33 with 32 bytes of data:

Reply from 22.42.21.33: bytes=32 time=8ms TTL=128
Reply from 22.42.21.33: bytes=32 time<1ms TTL=128
Reply from 22.42.21.33: bytes=32 time<1ms TTL=128
Reply from 22.42.21.33: bytes=32 time=10ms TTL=128

Ping statistics for 22.42.21.33:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 10ms, Average = 4ms

C:\>
```