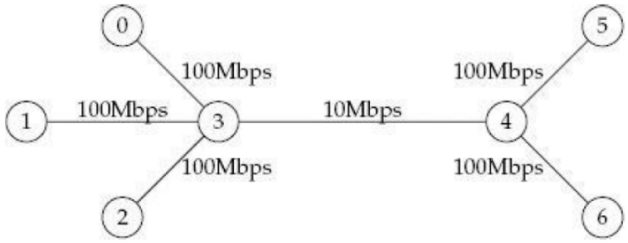
PART - A

Q. Design a network as shown in Figure, now attach two traffics from 0 → 6 and 2 → 5. Run the program with queue limit 15 and associate different colours with different traffic. Observe, count, and comment on the total number of packets dropped for each source when FQ and SFQ queueing disciplines are used.

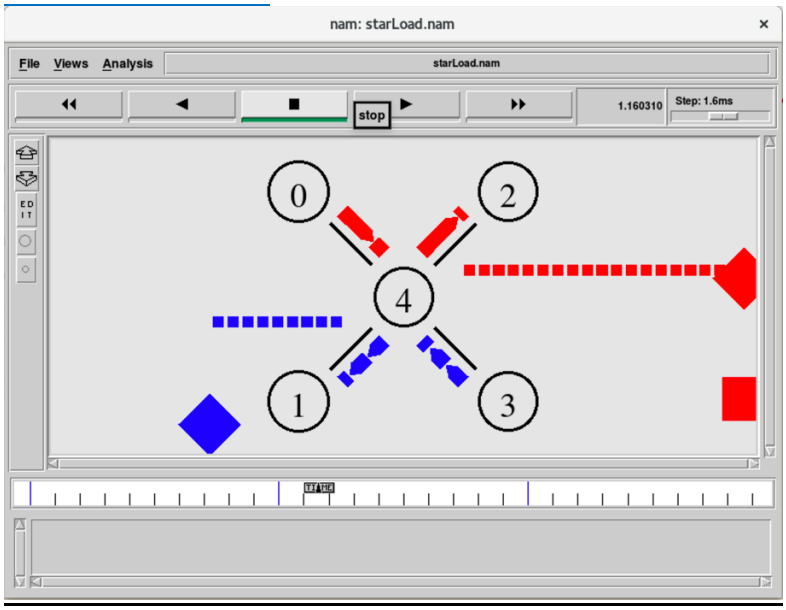
Topology:



TCL Script:

```
# Creating event Scheduler
set ns [new Simulator]

# Creating Nodes
set n0 [$ns node]
set n1 [$ns node]
set n2 [$ns node]
set n3 [$ns node]
set n4 [$ns node]

set tf [open starLoad.tr w]
$ns trace-all $tf

set nf [open starLoad.nam w]
$ns namtrace-all $nf

# creating link between nodes with DropTail Queue
$ns duplex-link $n4 $n1 900Kb 10ms DropTail
$ns duplex-link $n4 $n2 800Kb 10ms DropTail
$ns duplex-link $n4 $n3 1Mb 10ms DropTail
$ns duplex-link $n4 $n0 1Mb 10ms DropTail
.
.
.
```

NAM Visualization:



Conclusion: Analyze Data Trace File (Suggest Results based on vary in Bandwidth, Propagation Delay, Queue Size, Schedule Event).

PART – B

Q. Write a program for simple RSA algorithm to encrypt and decrypt the data.

Algorithm:

1. Generate two large random primes, P and Q, of approximately equal size.
2. Compute N = P x Q
3. Compute Z = (P-1) x (Q-1).
4. Choose an integer E, 1 < E < Z, such that GCD (E, Z) = 1
5. Compute the secret exponent D, 1 < D < Z, such that E x D ≡ 1 (mod Z)
6. The public key is (N, E) and the private key is (N, D).

Code

```
import java.math.BigInteger;
import java.util.*;
class rsa
{
   public static void main(String args[])
   {
      Scanner ip=new Scanner(System.in);
      int p,q,n,e=1,j;
      int d=1,i1;
      int t1,t2;
      int pt[]= new int[10];
      int ct[]= new int[10];
      int rt[]= new int[10];
      int temp[]= new int[10];
      String i=new String();
    }
}
```


Output:

```
java rsa
Enter the two prime numbers:
5 11
Enter the message to be sent:
global
```

Conclusion:

Here, you need to sum up the points and statement of decision reached.

NOTE: Send your completed program doc to -- **Edmodo**
csr9d4