Congestion Control algorithm

Congestion:

A State occuring in network layer when the message traffic is so heavy that it slows down network response time.

Effects:

*) As delay increases, Performance decreases.

* If delay increases, Retransmission occurs, making Situation worse.

Congestion control algorithms

* Congestion control is a mechanism that Controls the entry of data Packets into the network, enabling a better use of a Shared network infrastructure & avoiding Congestive collapse.

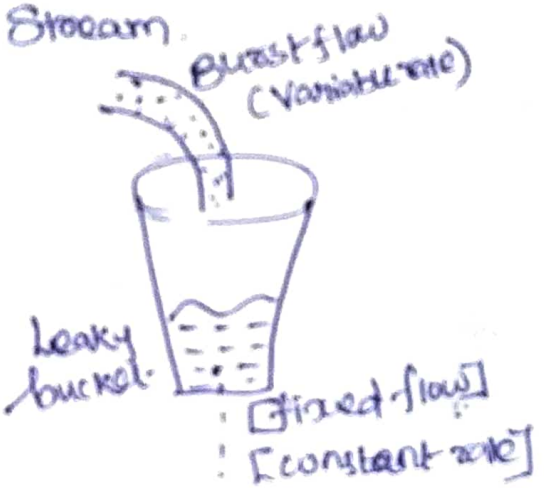
Two types of Congestion control algorithms.

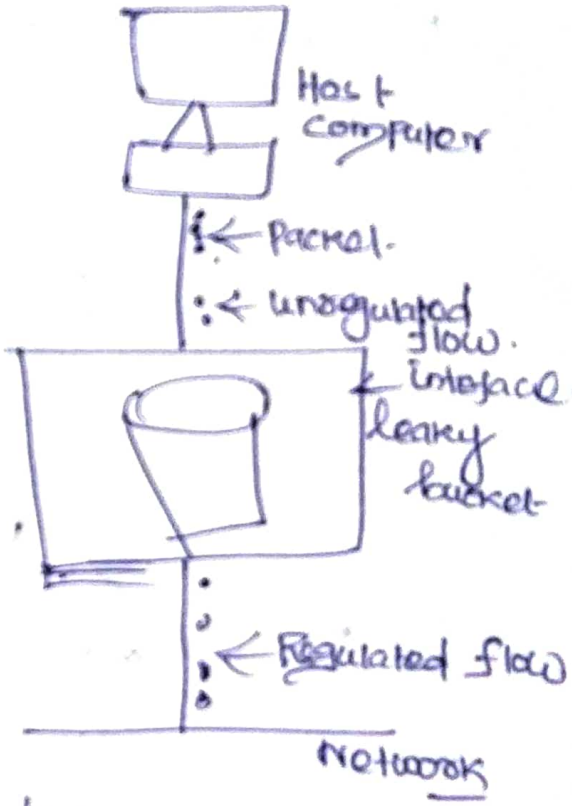
- Leaky Bucket algorithm
- Token bucket algorithm.

Leaky Bucket algorithm:

* The leaky bucket algorithm discovers its use in the context of network traffic shaping (or) rate limiting.

* This algorithm is used to control the rate at which traffic is sent to the network & shape the bursty traffic to a steady traffic stream.



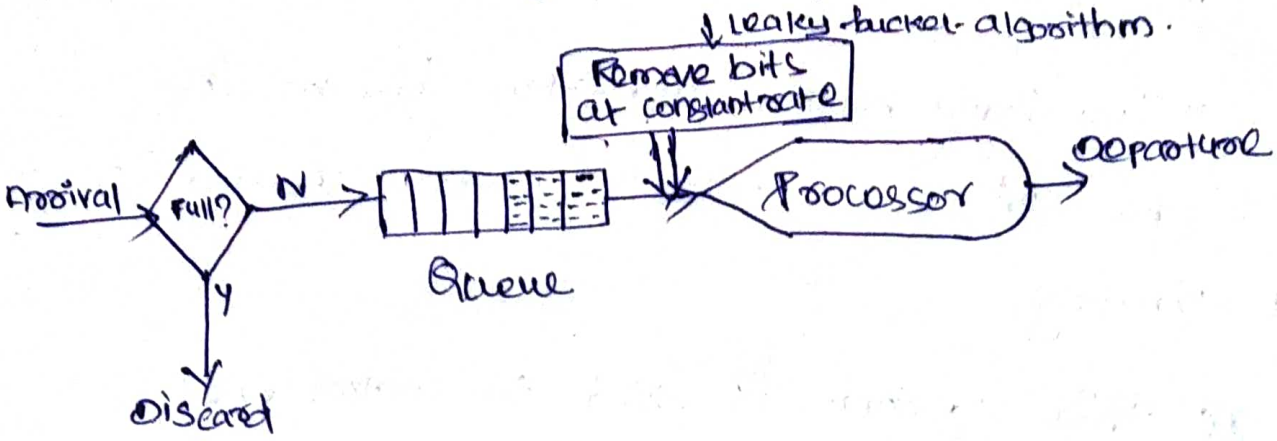


When ever the congestion is there, leaky bucket algorithm it holds the packet & sends out the packets from the router one after another in regulated flow.

Drawback

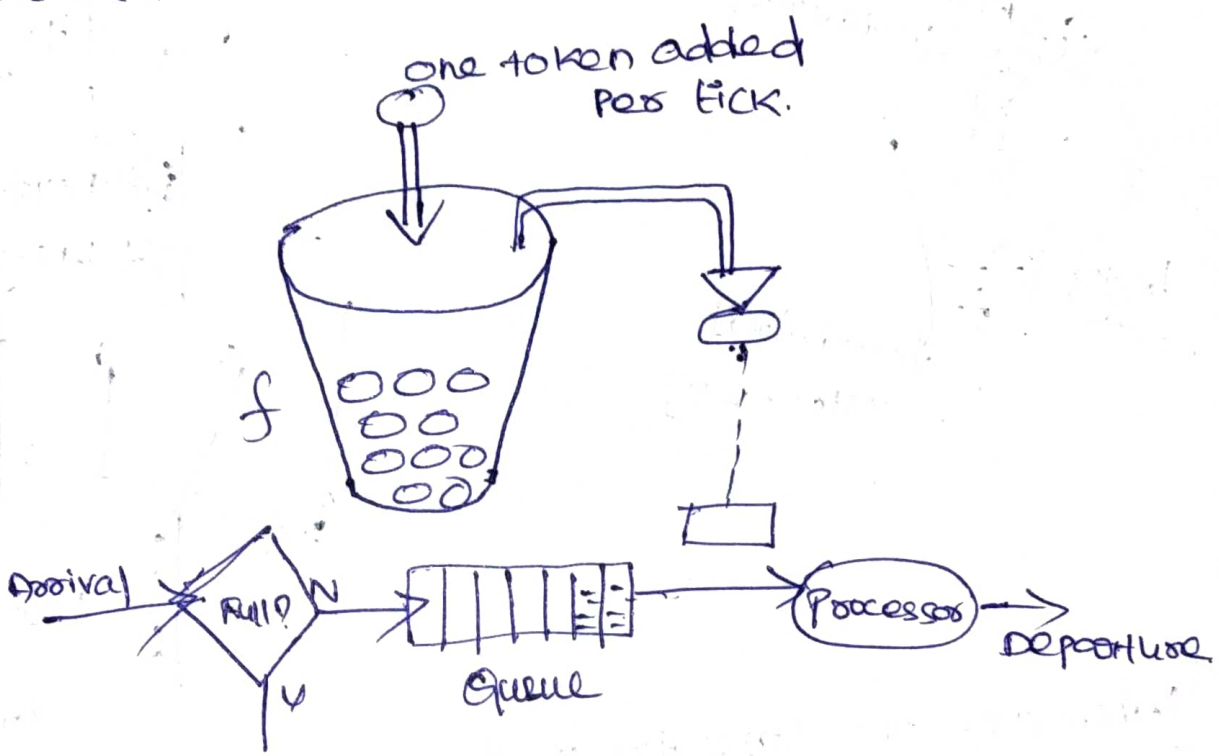
Whenever the bucket is full with packets data will spills over the side & data will lost.

Leaky bucket Implementation



Token bucket algorithm

(X) The data is not lost



Incoming packet must have token before admission into the network & rate regulates transfer packets.

Leaky bucket	Token bucket
1) Discard packets	Does not, It discards only tokens
2) Leaky bucket sends packet at an average rate.	With token bucket, a packet can only be transmitted if there are enough tokens to cover its length in bytes.