

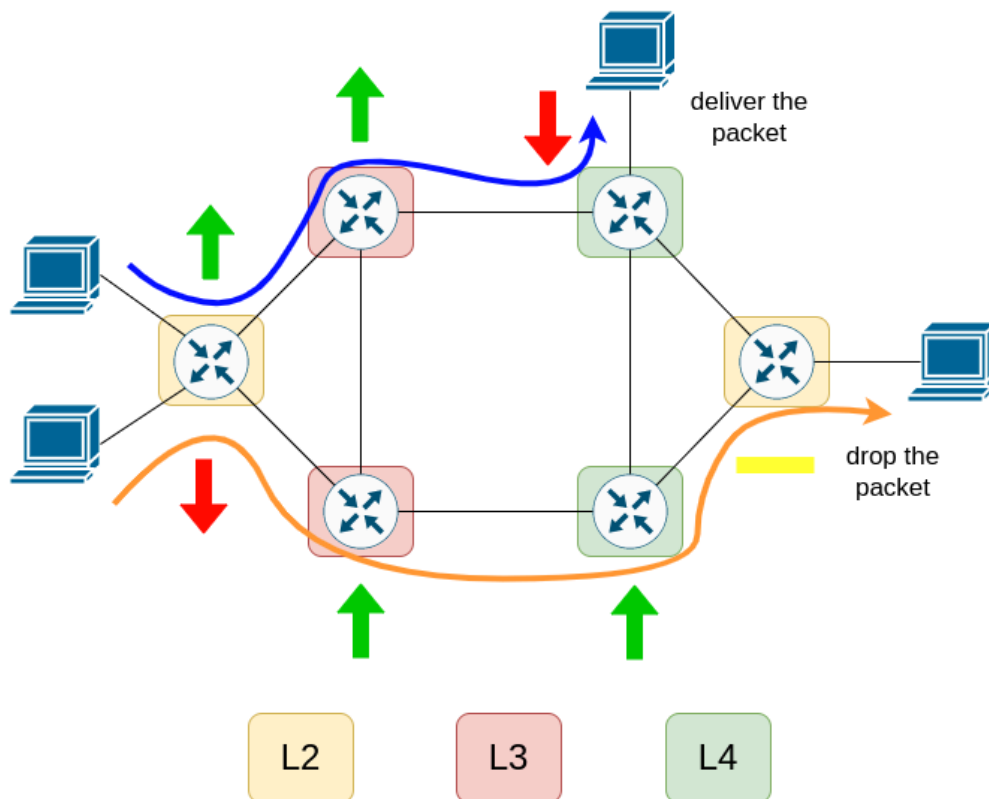
# Programmable Networks

## A.Y. 2023/24

### Project 2 (P4 Lab)

In this project, it is required to use the P4 language to define a distributed consensus service. Specifically, during the transit of a packet within the network domain, each intermediate node expresses its opinion regarding the treatment that the packet should undergo (allowed, to drop, abstained). This decision is made by each node by observing certain specific fields of the packet itself. Each network node is specialized in a specific layer of the stack. Upon reaching the egress node, if the absolute majority of nodes have voted for the "allowed" option, then the packet is delivered to the recipient; otherwise, it is discarded.

An example of such an application is shown in the figure below, where two different packets and the respective voting processes are represented.



As much as possible, attempt to minimize the number of different P4 programs to be defined.