Advanced Computer Architecture

Assignment - 5
Q1: VLANs

- Why VLANs were introduced?
- What problem do they solve?
- What could go wrong if you have large number of VLANs in a datacenter?
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Q2: Topology

- You have
  - \( n \) machines
  - and switches with \( k \) ports

- How many switches for connecting all machines with tree topology?

- And for a Fat-tree?
  - What will be the cross section BW for Fat-tree?
Q3: Portland

- TRILL?
- Steps involved in two machines communicating in Portland Datacenter
  - Specially about ARPs
- How edge router failure is handled?
Q4: VL2

- Compare it with Portland
  - Do they solve same problems?
- What is VL2 Directory?
  - Does Portland have something similar?
  - Does Traditional DC has something similar?
- What is ECMP?
  - How is it related to VL2?