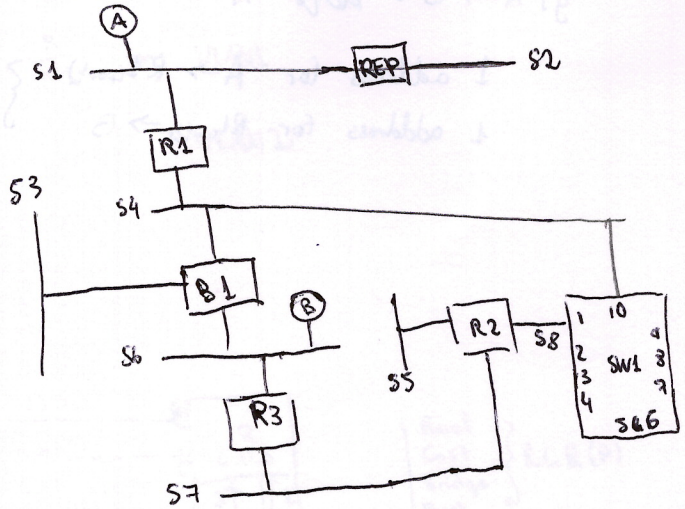
6.3.2. [a b c d e f g]

Given this network where:

- Sx are Ethernet segments
- Rx are routers with some free interfaces
- B1 is a bridge
- Rep is repeater
- SW1 is a 10-port cut-through switch
- A & B are nodes



a) How many CDs are there? On which segs? On which SW1 ports?

b) How many BDs? On which segs and SW1 ports?

We configure 4 port-based VLANS on SW1:

- VLAN1: 1,2,3
- VLAN2: 4,5,6
- VLAN3: 7,8
- VLAN4: 9,10

c) How many CD? On which segs and SW1 ports?

d) How many BDs? On which segs and SW1 ports?

e) How are VLAN1 and VLAN4 connected?

f) How can we connect VLAN2 and VLAN3 to the rest?

g) How many eth addresses are used in comms between A and B?

a) 15 CDs : (S1&S2), S3, S4, S5, S6, S7, S8, ( ), ( ), ( ), ( ), ( ), ( ), ( )

SW1 port: - | 10 | - | 1 | 2 | 3 | 1 | 4 | 5 | 6 | 7 | 8 | 9

b) 4 BDs : S1, S2 (-) | S3, S4, S6, S8 (SW1: all) | S7 (-) | S5 (-)

c) 15 CDs : S1,S2 (-) | S3 (10) | S4 (10) | S6 (10) | S5 (-) | S7 (-) | S8 (1) | - (2) | - (3) | - (4) | - (5) | - (6) | - (7) | - (8) | - (9)

on SW1:

d) 7 BDs : S1,S2 (-) | S3, S4, S6 (10, 9, VLAN4) | S5 (-) | S7 (-) | S8 (4, 2, 3, VLAN1) | - (4, 5, 6, VLAN2) | - (7, 8, VLAN3)

on SW1:

e) SW1 [10] — [S8] R2 — S7 — R3 — S6 (B1) S4 ...

VLAN1 — VLAN2

f) We could connect one port of SW1's VLAN2 (4, 5, or 6) to a free interface of R1, and do the same for one port in VLAN3 (7, 8) to another free interface in R1 (or in R2 if there are no more)