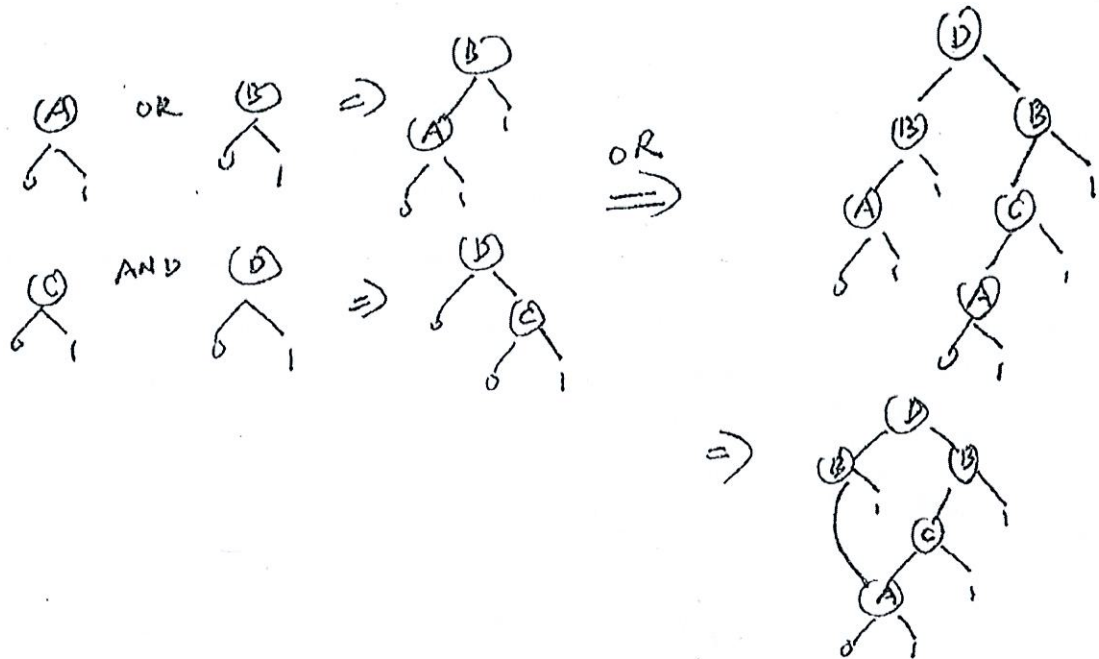


1) BDD generation

$$D < B < C < A$$



2) BDD evaluation

$$P = 0.1$$

$$R_{\text{sys}} = (1 - P_D)(1 - P_B)^{(1 - P_A)} + P_D(1 - P_B)(1 - P_C)(1 - P_A) \quad (\text{Faster})$$

$$= 0.9^3 + 0.1 * 0.9^3 = 0.8019$$

(2 paths leading to sink '0')

$$\cup R_{\text{sys}} = (1 - P_D)P_B + P_D P_B + P_D(1 - P_B)P_C + P_D(1 - P_B)(1 - P_C)P_A + (1 - P_D)(1 - P_B)P_A$$

$$= 0.9 * 0.1 + 0.1^2 + 0.1^2 * 0.9 + 0.1^2 * 0.9^2 + 0.9^2 * 0.1$$

$$= 0.1981$$

(5 paths leading to sink '1')