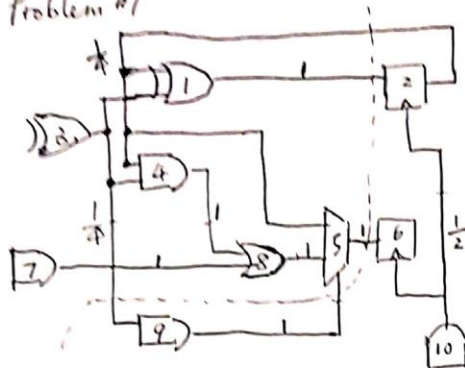


Problem #1



$$\text{edge weight} = 4/(n' - \text{mod}(n, 2))$$



$$(a): T = 3 \cdot \frac{1}{4} + 1 + 1 + 1 + 1 + 2 \cdot \frac{1}{2} = \boxed{5 \frac{3}{4}}$$

$$(b): P_A = 8 + 19 + 8 + 7 + 5 = \boxed{47} \quad P_B = \boxed{39} \quad \boxed{\text{admissible}}$$

$$(c): T = 3 \cdot \frac{1}{4} + 1 + 1 + 1 + 3 \cdot \frac{1}{4} = \boxed{4 \frac{1}{2}} \quad g = 5 \cdot \frac{3}{4} - 4 \cdot \frac{1}{2} = \boxed{\frac{5}{4}}$$

$$(d): \boxed{P_A = 38} \quad \boxed{P_B = 48} \quad \boxed{\text{admissible}}$$

New partition:  $A = \{1, 3, 4, 5, 7, 8, 9\}$   $B = \{2, 6, 10\}$

$$T = 3 \cdot \frac{1}{4} + 1 + 1 = \boxed{2 \frac{3}{4}} \quad \boxed{P_A = 43} \quad \boxed{P_B = 43}$$

Problem #2.

$$\begin{aligned} t_{p, \min} &= (1.38 + 1.02 \sqrt{1+\gamma}) L \sqrt{R d C d t c} = (1.38 + 1.02 \sqrt{1+1.4}) \cdot 10 \sqrt[4]{548 \times 0.61 \times 11.7 \times 0.18} \\ &= (1.38 + 1.02 \sqrt{1+1.4}) \times 10^{-2} \sqrt[4]{548 \times 10^6 \times 0.61 \times 10^{-9} \times 11.7 \times 10^6 \times 0.18 \times 10^{-9}} \\ &= 7.854 \times 10^{-4} \text{ s} \end{aligned}$$

$$t_{p, \min} \text{ (noer)} = 7.437 \times 10^{-4} \text{ s}$$

$$t_{p, \min} \text{ (Global)} = \boxed{3.977 \times 10^{-4} \text{ s}}$$