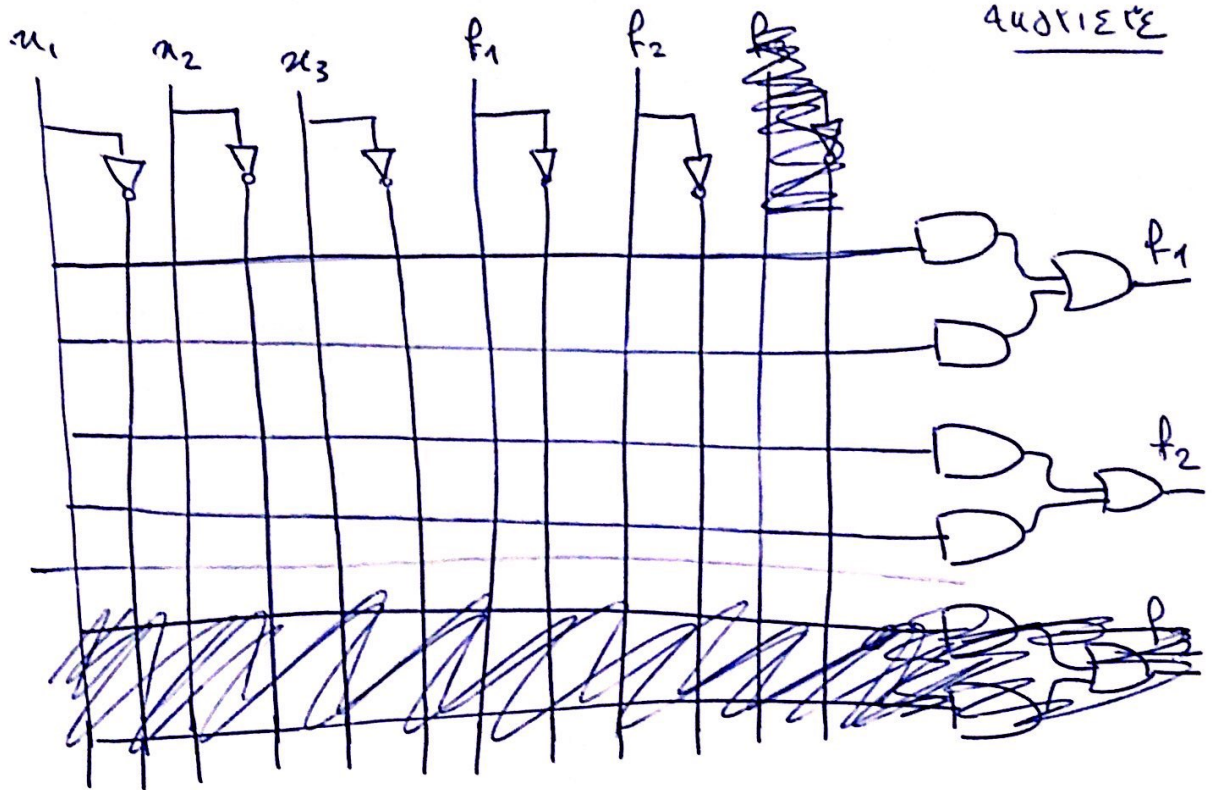


P3.

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Q1.



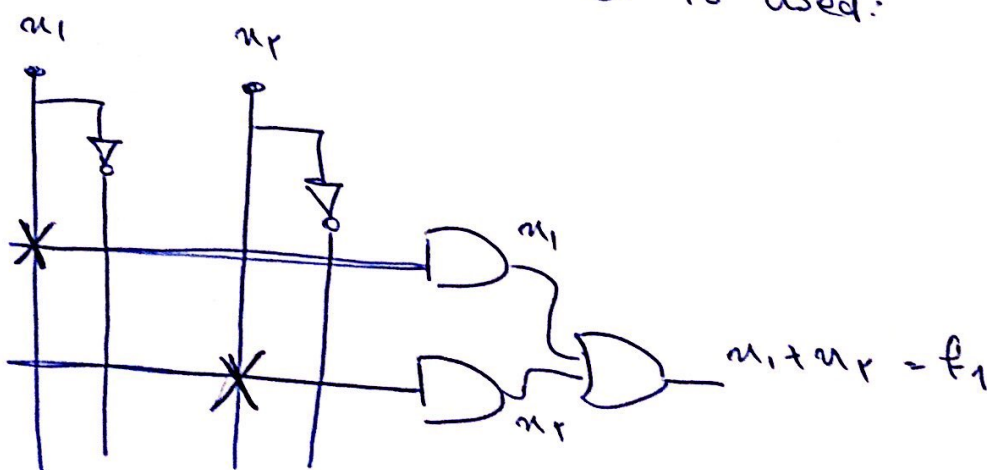
Q2.

3 inputs
2 f (output)

$$f_1: u_1(u_1 + u_2) + \bar{u}_1(u_2 + \bar{u}_2) = u_1 + u_2$$

$$\Rightarrow f_1 = (u_1 + u_2)(u_2 + \bar{u}_2) = \boxed{u_1 + u_2}$$

\Rightarrow PAL: Two ands, ~~and~~ one or is used.



other or gates are useless!

P3.

Q2.

$$f_2: \overline{u_r} (\underbrace{u_1 + u_r}_{f_1}) + u_r \overline{u_1} \overline{u_r}^{\overline{f_1}} = \overline{u_r} f_1 + u_r \overline{f_1}$$

