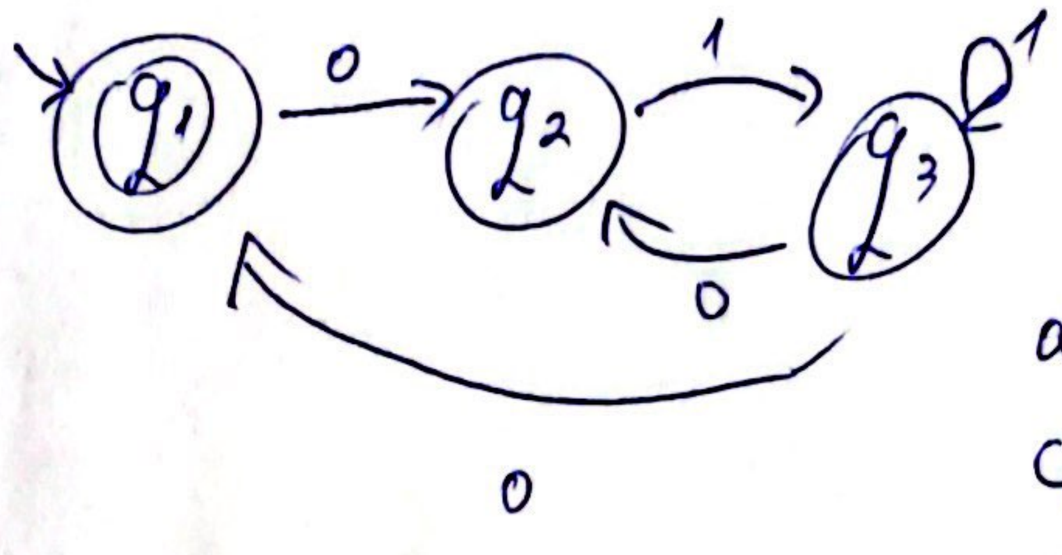
Ticket 10 - 30.01

I.

1. 

Which sequences are accepted by the FA?

a) 001 b) ε

c) 010 d) 0100

2. $L_1 = \{0, 00\}$; $L_2 = \{\varepsilon, 1, 11\}$;

Which elements belong to $L_1 \oplus L_2$?

a) 0; b) 00; c) 1; d) 01

3. $G = (\{S, A\}, \{a, b\}, P, S)$; Which sequences $\in L(G)$?

$P: S \to aA$

$A \Rightarrow bS | AA | a$

a) ab^2 b) aa

c) aaa d) abb

4. $0^+ (b+c)^* 0^*$; Which sequences can be generated by the regex?

a) $0b+c0$ b) $0b0$

c) $0bc0$ d) $0c$

II. $G = (\{S, A, B\}, \{a, b\}, P, S)$; Corresponding RE, FA

$S \to \varepsilon | aA | bB$

$A \to bA | bB$

$B \to aA | aB | a$

III. PDA for $L = \{ (ab)^n c^m \mid n > 0, m \geq 0, n, m \in \mathbb{N} \}$

IV. $G = (\{S, A, B\}, \{0, 1\}, P, S)$; FIRST, FOLLOW ?

$S \to AB \mid BB$

$A \to 0A \mid \varepsilon \mid SB$

$B \to 1A \mid \varepsilon$

V. Intermediary code; the table (triplets or quadruplets)

```
for i := 1, n do
    for j := 1, m do
        if i < j then:
            D := D + i
        else
            D := D + j
a := D
```