

Give a RE (regexp) and an NFA for each language below.

1. $L_1 = \{s \in \{0, 1\}^* : s \text{ contains at least 2 characters and } s\text{'s second character is a 1}\}$
2. $L_2 = \{s \in \{0, 1\}^* : s \text{ contains fewer than 2 characters}\}$
3. $L_3 = \{s \in \{a, b\}^* : \text{every } a \text{ in } s \text{ is eventually followed by } b\}$
4. $L_4 = \{s \in \{a, b\}^* : \text{the third-last character of } s \text{ is a } b\}$
5. $L_5 = \{s \in \{a, b\}^* : s \text{ contains some substring of length 4 whose first and last characters are the same}\}$