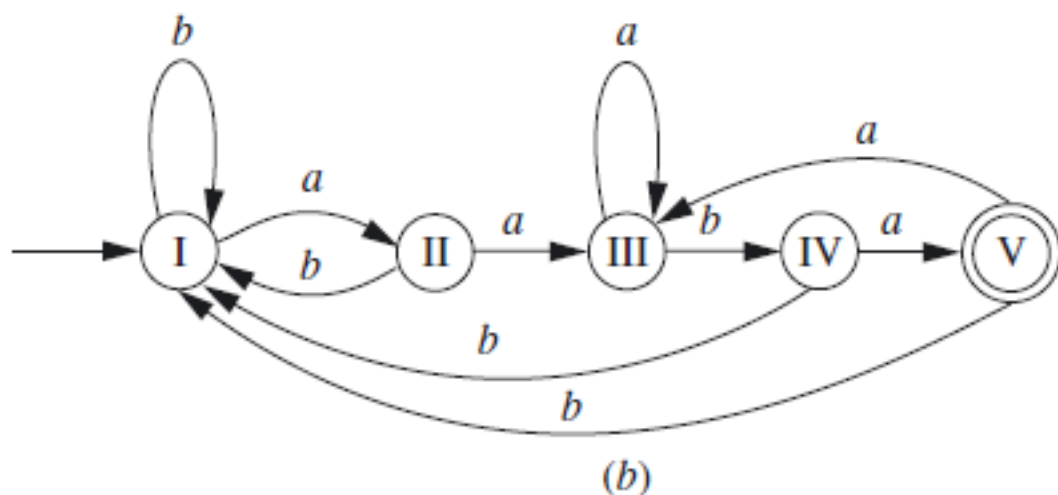
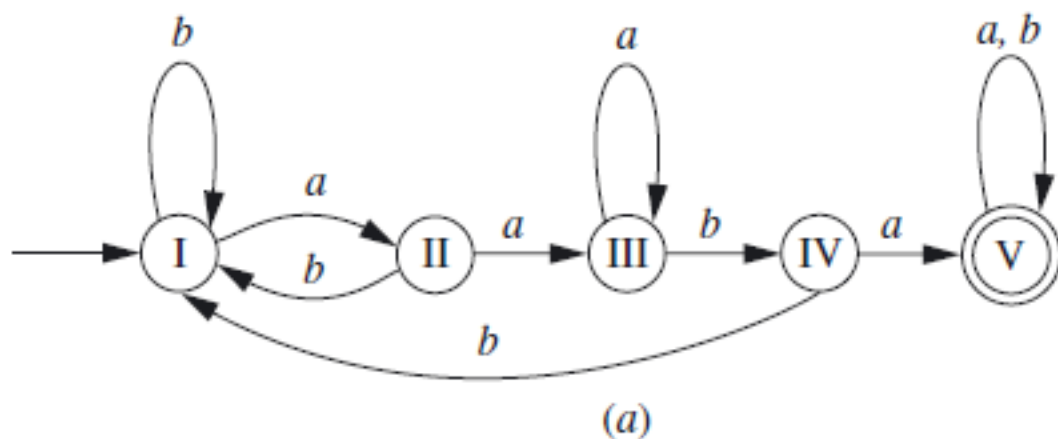


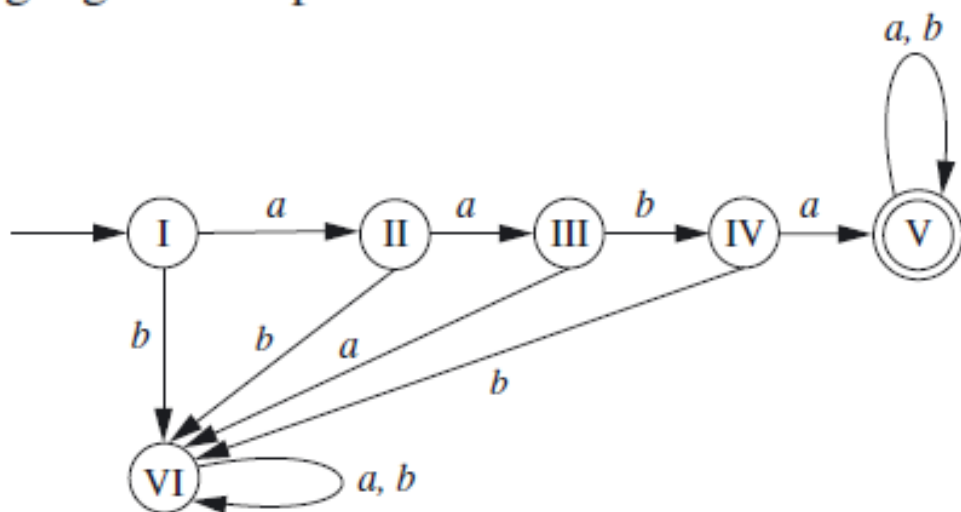
# Az informatika számítástudományi alapjai gyakorlat

## **2. feladatsor**

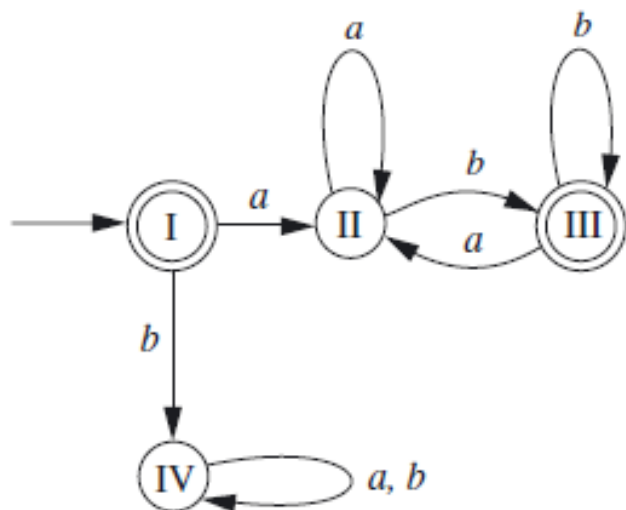
2.2. For each of the FAs pictured in Fig. 2.43, give a simple verbal description of the language it accepts.



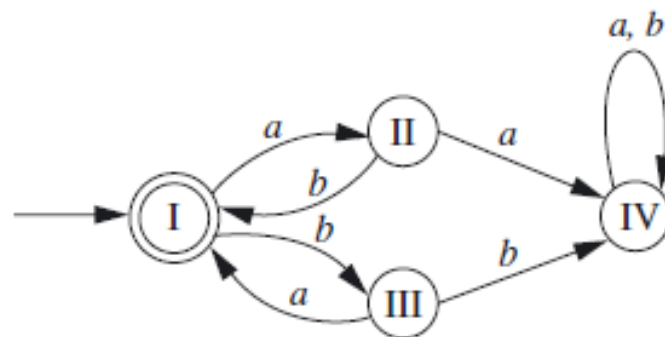
2.2. For each of the FAs pictured in Fig. 2.43, give a simple verbal description of the language it accepts.



(c)



(d)



(e)

**2.1.** In each part below, draw an FA accepting the indicated language over  $\{a, b\}$ .

- a. The language of all strings containing exactly two  $a$ 's.
- b. The language of all strings containing at least two  $a$ 's.
- c. The language of all strings that do not end with  $ab$ .
- d. ~~The language of all strings that begin or end with  $aa$  or  $bb$ .~~
- e. The language of all strings not containing the substring  $aa$ .
- f. The language of all strings in which the number of  $a$ 's is even.
- g. The language of all strings in which both the number of  $a$ 's and the number of  $b$ 's are even.
- h. The language of all strings containing no more than one occurrence of the string  $aa$ . (The string  $aaa$  contains two occurrences of  $aa$ .)
- i. The language of all strings in which every  $a$  (if there are any) is followed immediately by  $bb$ .
- j. The language of all strings containing both  $bb$  and  $aba$  as substrings.
- k. ~~The language of all strings containing both  $aba$  and  $bab$  as substrings.~~

**2.12.** For each of the following languages, draw an FA accepting it.

a.  $\{a, b\}^* \{a\}$

b.  $\{bb, ba\}^*$

c.  $\{a, b\}^* \{b, aa\} \{a, b\}^*$

d.  $\{bbb, baa\}^* \{a\}$

e.  $\{a\} \cup \{b\} \{a\}^* \cup \{a\} \{b\}^* \{a\}$

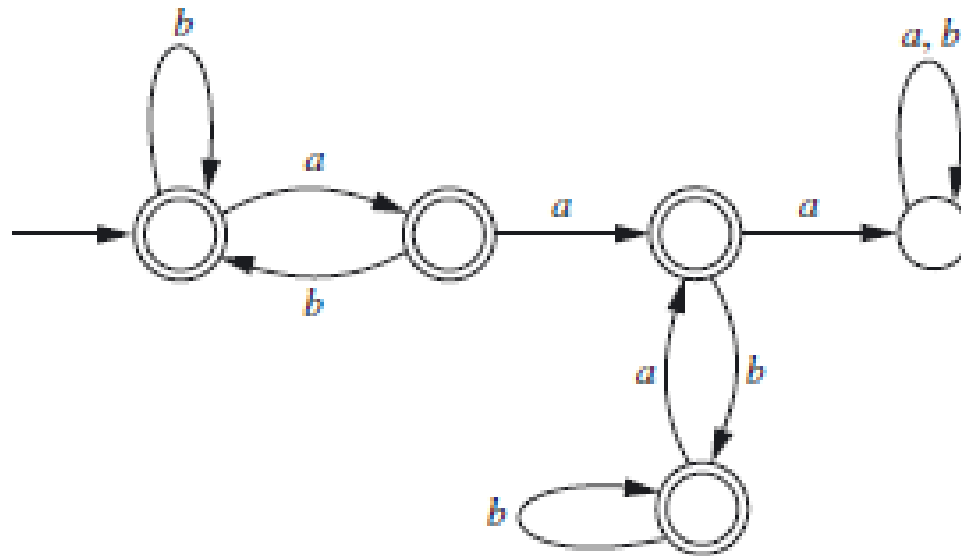
f.  $\{a, b\}^* \{ab, bba\}$

g.  $\{b, bba\}^* \{a\}$

h.  $\{aba, aa\}^* \{ba\}^*$

Két megoldás:

2.1(h).



2.12(h).

