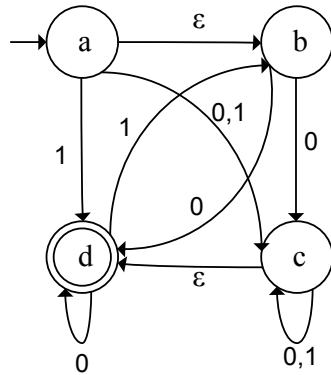**Regular expressions and finite automata. Variant 1.**
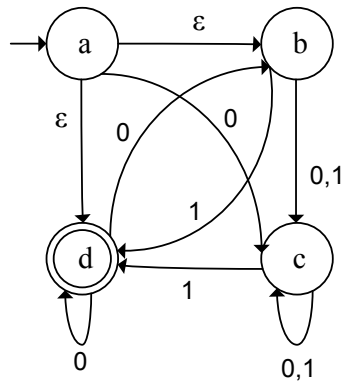
1.   Describe the behavior of the NFA if the input string is 0110. Construct a DFA equivalent to the NFA.

2.   Construct a regular expression specifying the same language as the language accepted by the DFA from the task 1.

3.   Construct a NFA accepting the language specified by the regular expression 0(1+0*)1*.

4.   Are the regular expressions 0(10)*1* and (01)*0(1*)* equivalent?

5.   Construct a finite automata accepting numbers in ternary notation divisible by five.

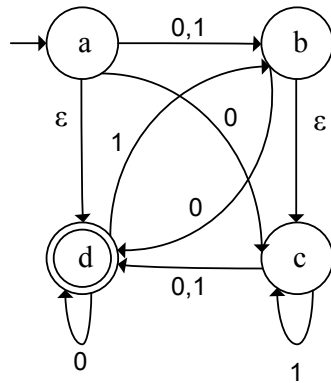**Regular expressions and finite automata. Variant 2.**

1. Describe the behavior of the NFA if the input string is 0110. Construct a DFA equivalent to the NFA.

2. Construct a regular expression specifying the same language as the language accepted by the DFA from the task 1.

3. Construct a NFA accepting the language specified by the regular expression 0*(1+01+10)1*0.

4. Are the regular expressions (11+0)(11)*01 and (11)*01+01(11)*01 equivalent?

5. Construct a finite automata accepting numbers in binary notation divisible by five.

**Regular expressions and finite automata. Variant 3.**

1. Describe the behavior of the NFA if the input string is 0110. Construct a DFA equivalent to the NFA.

2. Construct a regular expression specifying the same language as the language accepted by the DFA from the task 1.
3. Construct a NFA accepting the language specified by the regular expression (1+0*)1*(10+01*).
4. Are the regular expressions (0+10)*1* and (0*10*)*1*.equivalent?
5. Construct a finite automata accepting numbers in ternary notation divisible by four.

Regular expressions and finite automata. Variant 4.

1. Describe the behavior of the NFA if the input string is 0110. Construct a DFA equivalent to the NFA.
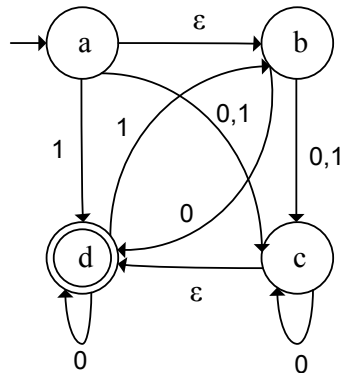
2. Construct a regular expression specifying the same language as the language accepted by the DFA from the task 1.
3. Construct a NFA accepting the language specified by the regular expression 0(1+0*+01)(1+00)*.
4. Are the regular expressions 0(10)*+(01)*0 and (01+10)*0 equivalent?
5. Construct a finite automata accepting numbers in binary notation divisible by six.