

RGPV 2015

Q. Design DFA accepting the following languages over the alphabet {0, 1}

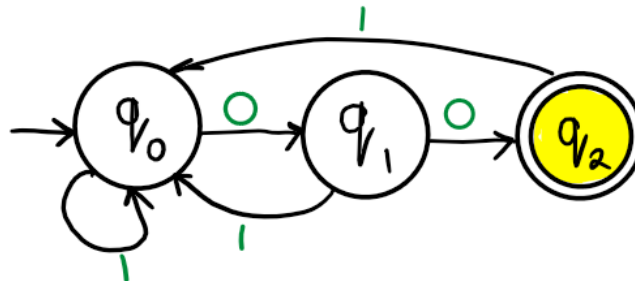
- 1. The set of all words ending in 00.
- 1. The set of all words except ϵ .
- 1. The set of all words that begin with 0.

Ans.

1. The set of all words ending with 00:

Some example strings = {00, 100, 000, 1000, 0100, 11100}

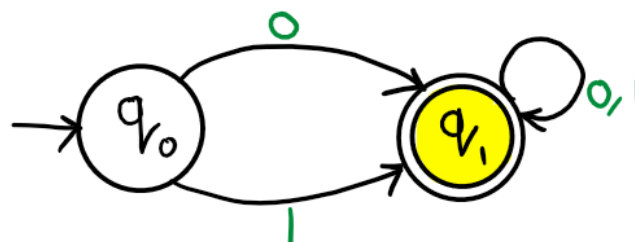
Regular expression = $(0+1)^*00$



2. The set of all words except ϵ :

Some example strings = {0, 1, 00, 10, 01, 11, 000000, 111111}

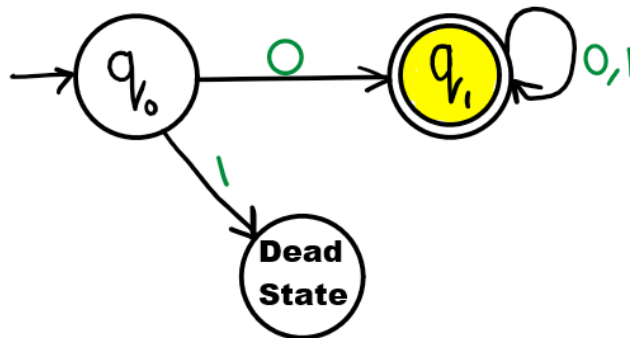
Regular expression = $(0+1)(0+1)^*$



3. The set of all words that begin with 0:

Some example strings = {0, 01, 00000, 0101010101}

Regular expression = $0(0+1)^*$



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17. CNF from $S \rightarrow aAD; A \rightarrow aB/bAB; B \rightarrow b, D \rightarrow d$.
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21. Grammar is ambiguous. $S \rightarrow aSbS|bSaS|\epsilon$
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