## **RGPV 2015**

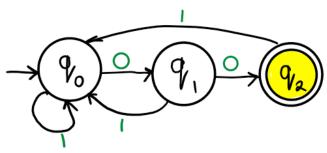
- Q. Design DFA accepting the following languages over the alphabet {0, 1}
  - 1. The set of all words ending in 00.
  - 1. The set of all words except  $\varepsilon$ .
  - 1. The set of all words that begin with 0.

Ans.

# 1. The set of all words ending with 00:

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

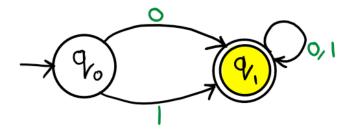
Regular expression = (0+1)\*00



## 2. The set of all words except $\epsilon$ :

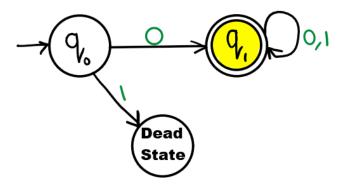
Some example strings =  $\{0, 1, 00, 10, 01, 11, 000000, 11111\}$ 

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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