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Automata  
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### Homework #5 Automata

*Create regular expressions generating the following languages using the alphabet  $\{0, 1\}$ :*

- all strings that contain 1's only in even-length subsequences
  - $(0^*(11)^*0^*)^*$
- all strings that contain at least two 0's and/or exactly two 1's
  - $((1^*01^*0(0|1)^*)|(0^*110^*))$
- all strings that contain at least two **0**'s and exactly two **1**'s
  - $0^*(000^*11|00^*100^*1|00^*110|1000^*1|100^*100^*|11000^*)0^*$
- all strings that do not contain the substring **000**
  - $1^*(001|01|1)^*$
- all strings of odd length that begin and end with the same symbol
  - $(1(1|0)(11|10|01|00)^*1)|(0(1|0)(11|10|01|00)^*0)$