

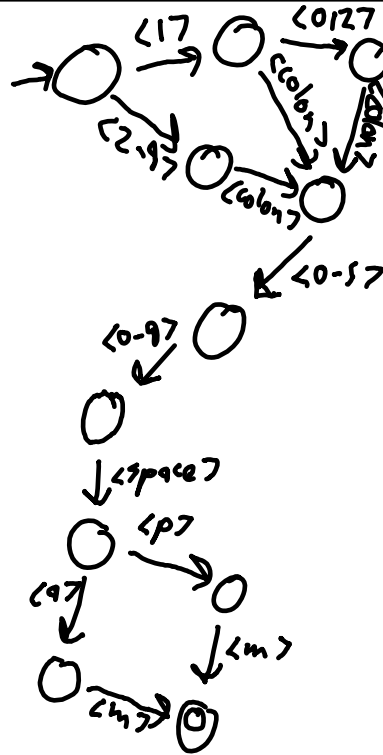
3. Draw a finite state machine (FSM) for a string representing a single time of day. Your FSM should accept times such as:

12:36 pm    1:59 am    4:00 pm    2:45 am

Note that there are no leading zeros. Also, am and pm are lowercase and have no periods. A terminal error state is not necessary.

To make the task easier, you can make up any grouping you want. For example, you may wish to let <digit> represent any digit, let <1> represent the digit 1, let <012> represent any digit 0 through 2, and let <space> represent a space.

Time statements are formatted in many ways, but we want your FSM to only accept the above time format—not military time or any other time format.



4. Give a regular expression for the FSM described in Question 3.

$([1][0-2]?|[2-9])\backslash:([0-5][0-9])([s])([am|pm])$