

Regular Expressions (Python notation):-

1) The set of all alphabetic strings

Answer:

`[A-Za-z]+`

2) The set of all alphabetic words

Answer:

`\b([A-Za-z]+)\b`

3) The set of all lower case alphabetic strings ending in a b

Answer:

`[a-z]*b`

4) the set of all lower case alphabetic words ending in a b

Answer:

`\b[a-z]*b\b`

5) The set of all strings from the alphabet {"a", "b"} such that each "a" is immediately preceded by and immediately followed by at least one "b"

Answer:

`b+ab+`

6) The set of all words from the alphabet {"a", "b"} such that each "a" is immediately preceded by and immediately followed by at least one "b".

Answer:

`\bb+ab+\b`

7) The set of all strings from the alphabet {"a", "b"} that form the pattern  $anbm$  where  $(n+m)$  is even;  $n \geq 0$  and  $m \geq 0$

Answer:

`(aa)*(bb*) | (a(aa)*b(bb*))`

Answer 2:

Regex:

$[01-12]/[01-31]/([1900-2000] | [00-99]) | ([00-99] | [1900-2000])/[01-31]/[01-12] | [01-31]/[00-99]/([1900-2000] | [00-99])$

FSA:

