**Regular Expression Exercises**

For each numbered string below each regular expression, state whether the string is matched by 1) the regular expression as given, and by 2) the regular expression if it were preceded by ^ (beginning-of-string character) and and followed by $ (end-of-string character). Assume that the given strings have no leading or trailing blanks.

1. Which of the following match #a(ab)\*a#
   1. abababa
   2. aaba
   3. aabbaa
   4. aba
   5. aabababa
   6. baab
2. Which of the following match #ab+c?#
   1. abc
   2. ac
   3. abbb
   4. bbc
   5. cabbcd
3. Which of the following match #a.[bc]+#
   1. abc
   2. abbbbbbbb
   3. azc
   4. abcbcbcbc
   5. babc
   6. asccbbbcbccf
4. Which of the following match #[a-z]+[\.\?!]#
   1. battle!
   2. Hot!
   3. green
   4. swamping.
   5. jump up.?
   6. yes?no!
5. Which of the following match #[a-zA-Z]\*[^,]#
   1. Butt
   2. BotHEr,
   3. a
   4. FIdD,lE7h
   5. Brittle
   6. Other.
   7. the empty string
6. Which of the following match #[a-z][\.\?!]\s+[A-Z]#
   1. A. B
   2. c! d
   3. e f
   4. g.  H
   5. i? J
   6. k L
7. Which of the following match #(very )+(fat )?(tall|ugly) man#
   1. very fat man
   2. fat tall man
   3. very very fat ugly man
   4. very very very tall man
8. Which of the following match #<[^>]+>#
   1. <an xml tag>
   2. <opentag> <closetag>
   3. </closetag>
   4. <>
   5. <with attribute="77">
9. Write a regular expression that matches a string consisting of a US phone number and nothing else.
10. Describe in English the following regex, and write several examples of strings that match it: /^[3-6]{4}/
11. Describe in English the following regex, and write several examples of strings that match it: /^([A-Z]\d){2}$/