Q1. What is the benefit of regular expressions?

advantages are that they are concise, they run very quickly, they can be ported across languages (they are definitely not just a Python thing!), and they are very powerful.

Q2. Describe the difference between the effects of "(ab)c+" and "a(bc)+." Which of these, if any, is the unqualified pattern "abc+"?

(ab)c+ will match exact “ab” string with frequency of c 0 or more.. so you can find abc, abcc, abccc.

a(bc)+ will match a string starting with ‘a’ and ‘bc’ with frequency 0 or more than that. So you can find abc, abcbc, abcbcbc..

Q3. How much do you need to use the following sentence while using regular expressions?

import re

Once you have imported the re module, you can use it to create regular expression objects. Regular expression objects are used to represent regular expressions. You can create regular expression objects using the re.compile() function.

Q4. Which characters have special significance in square brackets when expressing a range, and under what circumstances?

In regular expressions, square brackets ( ) have a special meaning and are called "metacharacters". **They are used to define a character set, which is a set of characters you want to match**. For example, [aeiou] would match all vowels.

Q5. How does compiling a regular-expression object benefit you?

compiling a regular expression object can be a great way to improve the speed, memory usage, and flexibility of your regular expression code.

Q6. What are some examples of how to use the match object returned by re.match and re.search?

The re.match() method searches for the pattern at the beginning of the string. The re.search() method searches for the pattern in the entire string.

Q7. What is the difference between using a vertical bar (|) as an alteration and using square brackets as a character set?

| is used to alternate character set nay one of them should match. [] represents character set.

Q8. In regular-expression search patterns, why is it necessary to use the raw-string indicator (r)? In   replacement strings?

The r at the start of a pattern string in Python designates a "raw" string. This **tells the Python interpreter to treat backslashes as literal characters**. Normally, Python uses backslashes as escape characters.