**Assignment 16**

Q1. What is the benefit of regular expressions?

Ans: Regular expressions are used to find a particular pattern of a word or sentence in the text. They act as filters which are easily maintained and can modified by any way we want.

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

Ans: “(ab)c+” pattern will match the “abc” string repeated many times and “a(bc)+” pattern will match “bc” string preceded by a even repeated many times. None of them is the unqualified pattern of “abc+”.

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

import re

Ans: import re is used to import the regex module which is necessary for using the regular expressions. Without importing compiler will throw an error and will not be able to run the code.

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

under what circumstances?

Ans: ‘-’ dash character has special significance in square brackets when expressing a range, for example, [a-z] where it will match any string containing a to z alphabets.

‘^’ character is used for negating a value. For example, if we want to match expressions to a sentence without a specified one.

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

Ans: Compiling a regular-expression have many benefits some of them are:

1. It increases the reusability of the compiled pattern.
2. It becomes easy to find errors if any in the regular-expression before using it in the code.
3. Increases the speed of execution of code.

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

Ans: We can use match objects returned by re.match and re.search in many ways. Some of them are:

1. Extracting the matched string:

import re

match = re.search("hello", "hello, world!")

if match:

print(match.group()) #output: hello

1. Extracting some parts of the match:

import re

match = re.search("(.el)(.o)", "Hello, world!")

if match:

print(match.group(1)) #output: Hel

print(match.group(2)) #output: lo

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

Ans: Vertical bar is used to choose between two different patterns if present in the string, whereas, square brackets are character set used to find a single character present in the set.

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

Ans: It is necessary because using ‘r’ will treat every string character as literal because in regex they can have special meaning and can cause confusion to the compiler leading to errors and incorrect results.