Python Regular Expression(optional)

A regular expression (or RE) specifies a set of strings that matches it; the functions in this module let you check if a particular string matches a given regular expression.

**1.** Write a Python program to check that a string contains only a certain set of characters (in this case a-z, A-Z and 0-9).

**2.** Write a Python program that matches a string that has an *a* followed by zero or more b's.

**3.** Write a Python program that matches a string that has an *a* followed by one or more b's.

**4.** Write a Python program that matches a string that has an *a* followed by zero or one 'b'.

**5.** Write a Python program that matches a string that has an *a* followed by three 'b'.

**6.** Write a Python program that matches a string that has an *a* followed by two to three 'b'.

**7.** Write a Python program to find sequences of lowercase letters joined with a underscore.

**8.** Write a Python program to find the sequences of one upper case letter followed by lower case letters.

**9.** Write a Python program that matches a string that has an 'a' followed by anything, ending in 'b'.

**10.** Write a Python program that matches a word at the beginning of a string.

**11.** Write a Python program that matches a word at the end of string, with optional punctuation.

**12.** Write a Python program that matches a word containing 'z'.

**13.** Write a Python program that matches a word containing 'z', not at the start or end of the word.

**14.** Write a Python program to match a string that contains only upper and lowercase letters, numbers, and underscores.

**15.** Write a Python program where a string will start with a specific number.

**16.** Write a Python program to remove leading zeros from an IP address.

**17.** Write a Python program to check for a number at the end of a string.

**18.** Write a Python program to search the numbers (0-9) of length between 1 to 3 in a given string.

"Exercises number 1, 12, 13, and 345 are important"

**19.** Write a Python program to search some literals strings in a string.   
Sample text : 'The quick brown fox jumps over the lazy dog.'  
Searched words : 'fox', 'dog', 'horse'

**20.** Write a Python program to search a literals string in a string and also find the location within the original string where the pattern occurs.

Sample text : 'The quick brown fox jumps over the lazy dog.'  
Searched words : 'fox'

**21.** Write a Python program to find the substrings within a string.

**Sample text :**

'Python exercises, PHP exercises, C# exercises'

**Pattern :**

'exercises'

Note: There are two instances of exercises in the input string.

**22.** Write a Python program to find the occurrence and position of the substrings within a string.

**23.** Write a Python program to replace whitespaces with an underscore and vice versa.

**24.** Write a Python program to extract year, month and date from an url.

**25.** Write a Python program to convert a date of yyyy-mm-dd format to dd-mm-yyyy format.

**26.** Write a Python program to match if two words from a list of words starting with letter 'P'.

**27.** Write a Python program to separate and print the numbers of a given string.

**28.** Write a Python program to find all words starting with 'a' or 'e' in a given string.

**29.** Write a Python program to separate and print the numbers and their position of a given string.

**30.** Write a Python program to abbreviate 'Road' as 'Rd.' in a given string.

**31.** Write a Python program to replace all occurrences of space, comma, or dot with a colon.

**32.** Write a Python program to replace maximum 2 occurrences of space, comma, or dot with a colon.

**33.** Write a Python program to find all five characters long word in a string.

**34.** Write a Python program to find all three, four, five characters long words in a string.

**35.** Write a Python program to find all words which are at least 4 characters long in a string.

**36.** Write a python program to convert camel case string to snake case string.

**37.** Write a python program to convert snake case string to camel case string.

**38.** Write a Python program to extract values between quotation marks of a string.

**39.** Write a Python program to remove multiple spaces in a string.

**40.** Write a Python program to remove all whitespaces from a string.

**41.** Write a Python program to remove everything except alphanumeric characters from a string.

**42.** Write a Python program to find urls in a string.

**43.** Write a Python program to split a string at uppercase letters.

**44.** Write a Python program to do a case-insensitive string replacement.

**45.** Write a Python program to remove the ANSI escape sequences from a string.

**46.** Write a Python program to find all adverbs and their positions in a given sentence.

Sample text : "Clearly, he has no excuse for such behavior."

**47.** Write a Python program to split a string with multiple delimiters.

Note : A delimiter is a sequence of one or more characters used to specify the boundary between separate, independent regions in plain text or other data streams. An example of a delimiter is the comma character, which acts as a field delimiter in a sequence of comma-separated values.

**48.** Write a Python program to check a decimal with a precision of 2.

**49.** Write a Python program to remove words from a string of length between 1 and a given number.

**50.** Write a Python program to remove the parenthesis area in a string.   
Sample data : ["example (.com)", "w3resource", "github (.com)", "stackoverflow (.com)"]  
Expected Output:  
example  
w3resource  
github  
stackoverflow

**51.** Write a Python program to insert spaces between words starting with capital letters. 

**52.** Write a Python program that reads a given expression and evaluates it.   
Terms and conditions:  
The expression consists of numerical values, operators and parentheses, and the ends with '='.  
The operators includes +, -, \*, / where, represents, addition, subtraction, multiplication and division.  
When two operators have the same precedence, they are applied to left to right.  
You may assume that there is no division by zero.  
All calculation is performed as integers, and after the decimal point should be truncated Length of the expression will not exceed 100.  
-1 ? 10 9 = intermediate results of computation = 10 9

**53.** Write a Python program to remove lowercase substrings from a given string. 

**54.** Write a Python program to concatenate the consecutive numbers in a given string.   
Original string:  
Enter at 1 20 Kearny Street. The security desk can direct you to floor 1 6. Please have your identification ready.  
After concatenating the consecutive numbers in the said string:  
Enter at 120 Kearny Street. The security desk can direct you to floor 16. Please have your identification ready.

**55.** Write a Python program to convert a given string to snake case.   
Sample Output:  
java-script  
gd-script  
btw...-what-\*-do\*-you-call-that-naming-style?-snake-case?

**56.** Write a Python program that takes any number of iterable objects or objects with a length property and returns the longest one.  
Sample Output:  
Orange  
[1, 2, 3, 4, 5]  
Java  
Python

**57.** Write a Python program that checks whether a word stars and ends with a vowel in a given string. Return true if a word matches the condition; otherwise, return false.  
**Sample Data:**  
("Red Orange White") -> True  
("Red White Black") -> False  
("abcd dkise eosksu") -> True

**58.** Write a Python program that takes a string with some words. For two consecutive words in the said string, check whether the first word ends with a vowel and the next word begins with a vowel. If the program satisfy the said condition, return true other false. Only one space is allowed between the words.   
**Sample Data:**  
("These exercises can be used for practice.") -> True  
("Following exercises should be removed for practice.") -> False  
("I use these stories in my classroom.") -> True