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In [138...#Question 1: Write a Python program to replace all occurrences of a space, comma, or dot with a colon.

import re
Sample_Text = 'Python Exercises, PHP exercises.'
print(re.sub("[ ,.]", ":", Sample_Text))

Python:Exercises::PHP:exercises:

In [139...#Question 2: Write a Python program to find all words starting with 'a' or 'e' in a given string.

import re

string = 'what time are evening classes in college. I am not able to attend the evening classes'
pattern = r'\b[ae]w\b'

result = re.findall(pattern, string)
print(result)

['are', 'evening', 'am', 'able', 'attend', 'evening']

In [140...#Question 3 :Create a function in python to find all words that are at least 4 characters long in a string. The use of the re.compile() method is mandatory.

import re

str1 = "Finally i am moving to USA for my work its amazing. I am very happy"

string_pattern = r"\b\w(4)\b"

regex_pattern = re.compile(string_pattern)

result = regex_pattern.findall(str1)
print(result)

['work', 'very']

In [141...#Question 4 : Create a function in python to find all three, four, and five character words in a string. The use of the re.compile() method is mandatory.

import re

str1 = "Finally i am moving to USA for my work its amazing. I am very happy"

string_pattern = r"\b\w(3,5)\b"

regex_pattern = re.compile(string_pattern)

result = regex_pattern.findall(str1)
print(result)

['USA', 'for', 'work', 'its', 'very', 'happy']

In [142...#Question 5: Create a function in Python to remove the parenthesis in a list of strings. The use of the re.compile() method is mandatory.

import re

items = ["example (.com)", "hr@fliprobo (.com)", "github (.com)", "Hello (Data Science World)", "Data (Scientist)"]

regex_pattern = re.compile("[\s([\]])")

for item in items:

    item = regex_pattern.sub("", item)

    print(item)

example.com
hr@fliprobo.com
github.com
HelloDataScienceWorld
DataScientist

In [143...#Question 6:Write a python program to remove the parenthesis area from the text stored in the text file using Regular Expression.

import re
with open('sample.txt', 'r') as f:
    text = f.read()
    patn = re.sub(r"([\s]*\s)", "", text)
print(patn)

['example ", "hr@fliprobo ", "github ", "Hello ", "Data "]

In [144...#Question 7: Write a regular expression in Python to split a string into uppercase letters.

import re

string = "ImportanceOfRegularExpressionsInPython"

pattern = '(?<=.)?[A-Z])'

result = re.split(pattern, string)
result

['Importance', 'Of', 'Regular', 'Expressions', 'In', 'Python']

Out[144]:

In [145...#Question 8: Create a function in python to insert spaces between words starting with numbers.

import re
string = "RegularExpression1IsAn2ImportantTopic3InPython"

pattern = r"(\w)([0-9])"

replace = r"\1 \2"

new_string = re.sub(pattern, replace, string)
print(new_string)

RegularExpression 1IsAn 2ImportantTopic 3InPython

In [146...#Question 9:Create a function in python to insert spaces between words starting with capital letters or with numbers.

import re
string = "RegularExpression1IsAn2ImportantTopic3InPython"

pattern = r"(\w)([0-9])"

replace = r"\1 \2 "

new_string = re.sub(pattern, replace, string)
print(new_string)

RegularExpression 1 IsAn 2 ImportantTopic 3 InPython

In [147...#Question 10:Write a python program to extract email address from the text stored in the text file using Regular Expression.

import re

file = open("url.txt", 'r')

text = file.read()

matches = re.findall("[a-zA-Z0-9-+]+@[a-zA-Z0-9-]+\.[a-zA-Z0-9-]+)", text)

print(matches)

['xyz@domain.com', 'xyz.abc@sdomain.domain.com.', 'hr@fliprobo.com']

In [84]:#Question 11:Write a Python program to match a string that contains only upper and lowercase letters, numbers, and underscores.

import re
string = 'Xyzandidis000 is awesome '
pattern = '[a-zA-Z0-9_]+'

result = re.match(pattern, string)
result

<re.Match object; span=(0, 14), match='Xyzandidis000_>

In [83]:#Question 12: Write a Python program where a string will start with a specific number.

import re

s = "9 is my lucky number"

pattern = r"^9"

if re.match(pattern, s):
    print("The string starts with 9")
else:
    print("The string does not start with 9")

The string starts with 9

In [82]:#Question 13: Write a Python program to remove leading zeros from an IP address.

import re
IP = "198.15.065.028"
string = re.sub('\.[0]*', '.', IP)
print(string)

198.15.65.28

In [137...#Question 14: Write a regular expression in python to match a date string in the form of Month name followed by day number and year stored in a text file.

import re

file = open("15aug.txt", 'r')

text = file.read()

date = re.findall(r'\b([A-Z][a-z]+\s\d{1,2})(?:st|nd|rd|th)?\s\d{4}\b', text)

print(date)

['August 15th 1947']

In [136...#Question 15: Write a Python program to search some literals strings in a string.

import re

def search_literal_strings(patterns, text):
    for pattern in patterns:
        result = re.search(pattern, text)
        if result:
            print(f"Found match for '{pattern}'")
        else:
            print(f"No match found for '{pattern}'")

text = "The quick brown fox jumps over the lazy dog."
patterns = ["fox", "dog", "horse"]

search_literal_strings(patterns, text)

Found match for 'fox'
Found match for 'dog'
No match found for 'horse'

In [135...#Question 16: 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.

import re

pattern = "fox"

regex_object = re.compile(pattern)

text = 'The quick brown fox jumps over the lazy dog.'

match_object = regex_object.search(text)
match_object

<re.Match object; span=(16, 19), match='fox'>

In [134...#Question 17: Write a Python program to find the substrings within a string.

import re

my_string = 'Python exercises, PHP exercises, C# exercises'
substring = 'exercises'
result = re.findall(substring, my_string)
print(result)

['exercises', 'exercises', 'exercises']

In [133...#Question 18: Write a Python program to find the occurrence and position of the substrings within a string.

import re

string = 'Hello NewYork ,NewYork, I love NewYork'
pattern = 'NewYork'
for match in re.finditer(pattern, string):
    s = match.start()
    e = match.end()
    print('match "%s" at %d:%d' % (string[s:e], s, e))

match "NewYork" at 6:13
match "NewYork" at 15:22
match "NewYork" at 31:38

In [132...#Question 19: Write a Python program to convert a date of yyyy-mm-dd format to dd-mm-yyyy format.

import re
original_date = "2023-08-06"
new_date = re.sub(r'(\d{4})-(\d{2})-(\d{2})', '\2-\2-\1', original_date)
print(new_date)

06-08-2023

In [131...#Question 20: Create a function in python to find all decimal numbers with a precision of 1 or 2 in a string. The use of the re.compile() method is mandatory.

import re

pattern = r"\d+\.\d{1,2}"

regex_object = re.compile(pattern)

text = "The price is $10.50, the temperature is 25.3°C, and the weight is 2.75 kg ."

match_object = regex_object.findall(text)
print(match_object)

['10.50', '25.3', '2.75']

In [130...#Question 21: Write a Python program to separate and print the numbers and their position of a given string.

import re

string = "There is a basket containing 250 apples, how do you divide the apples among 25 children so that each child has 10 apple while 1 apple remains in the basket?"

for match in re.finditer("\d+", string):
    print(match.group(0))
    print("position:", match.start())

250
position: 29
25
position: 76
10
position: 111
1
position: 126

In [125...#Question 22: Write a regular expression in python program to extract maximum/largest numeric value from a string.

import re

strings= "My marks in each semester are: 947, 896, 926, 524, 734, 950, 642"

number = re.findall('\d+', string)

number = map(int, number)
print("Max_Value:",max(number))

Max_value: 950

In [127...#Question 23: Create a function in python to insert spaces between words starting with capital letters.

import re

string= "RegularExpressionIsAnImportantTopicInPython"

result = re.sub(r"(\w)([A-Z])", r"\1 \2", string)

print(result)

Regular Expression Is An Important Topic In Python

In [128...#Question 24: Python regex to find sequences of one upper case letter followed by lower case letters

import re
def string_match(string):
    patterns = '[A-Z][a-z]+$'

    if re.search(patterns, string):
        return ('Found a match!')
    else:
        return('Not matched!')

print(string_match("xxyyZz"))
print(string_match("AbcDef"))
print(string_match("regex"))
print(string_match("PYTHON"))

Found a match!
Found a match!
Not matched!
Not matched!

In [129...#Question 25: Write a Python program to remove continuous duplicate words from Sentence using Regular Expression.

string = "Hello hello world world "

pattern = r'\b(\w+)(?=\w+\1\b)+'

result = re.sub(r'\b(\w+)(?=\w+\1\b)+' , r'\1', string )
print(result)

Hello hello world

In [123...#Question 26 : Write a python program using RegEx to accept string ending with alphanumeric character.

import re
def string_match(string):
    patterns = '[a-zA-Z0-9]$'

    if re.search(patterns, string):
        return ('Found a match!')
    else:
        return('Not matched!')

print(string_match("hr@fliprobo"))
print(string_match("Python."))
print(string_match("python@"))
print(string_match("PYTHON123"))

Found a match!
Not matched!
Not matched!
Found a match!

In [120...#Question 27: Write a python program using RegEx to extract the hashtags.

import re

string = """"RT @kapil_kausik: #Doltiwal I mean #xyzabc is "hurt" by #Demonetization as the same has rendered USELESS <ed><U+00A0><U+00BD><ed><U+00B1><U+00B9> "acquired funds" No wo!

pattern = r'(?i)\#w+'

result = re.findall(pattern, string)
print(result)

['#Doltiwal', '#xyzabc', '#Demonetization']

In [117...#Question 28:Write a python program using RegEx to remove <U+..> like symbols Check the below sample text, there are strange symbols something of the sort <U+..> all over the place

import re

string = "@Jags123456 Bharat band on 28??<ed><U+00A0><U+00BD><ed><U+00B8><U+00E2>Those who are protesting #demonetization are all different party leaders"

result = re.sub("\s*<U+\\+\\w+>\\s*", "", string)

print(result)

@Jags123456 Bharat band on 28??<ed><ed>Those who are protesting #demonetization are all different party leaders

In [118...#Question 29: Write a python program to extract dates from the text stored in the text file.

import re

file = open("Ron.txt", 'r')

text = file.read()

dates = re.findall("\d{2}[/-]\d{2}[/-]\d{4}", text)

print(dates)

['12-09-1992', '15-12-1999']

In [119...#Question 30: Create a function in python to remove all words from a string of length between 2 and 4.

import re

string = "The following example creates an ArrayList with a capacity of 50 elements. 4 elements are then added to the ArrayList and the ArrayList is trimmed accordingly."

regex_object = re.compile(r'\w*\b\w(2,4)\b')
print(regex_object.sub('', string))

following example creates ArrayList a capacity elements. 4 elements added ArrayList ArrayList trimmed accordingly.
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