

1. Python – Check whether a string starts and ends with the same character or not

Python program to check if a string starts
and ends with the same character

import re module as it provides
support for regular expressions
import re

the regular expression
regex = r'^[a-z]\$|^([a-z]).*\1\$'

function for checking the string
def check(string):

pass the regular expression
 # and the string in the search() method
 if(re.search(regex, string)):
 print("Valid")
 else:
 print("Invalid")

if __name__ == '__main__':

sample1 = "abba"
 sample2 = "a"
 sample3 = "abcd"

check(sample1)
 check(sample2)
 check(sample3)

2. Python regex to find sequences of one upper case letter followed by lower case letters

Python3 code to find sequences of one upper
case letter followed by lower case letters
import re

Function to match the string

```

def match(text):

    # regex
    pattern = '[A-Z]+[a-z]+$'

    # searching pattern
    if re.search(pattern, text):
        return('Yes')
    else:
        return('No')

# Driver Function
print(match("Geeks"))
print(match("geeksforGeeks"))
print(match("geeks"))

```

3. Python Program to Remove duplicate words from Sentence

from collections import Counter

```

def remov_duplicates(input):

    # split input string separated by space
    input = input.split(" ")

    # now create dictionary using counter method
    # which will have strings as key and their
    # frequencies as value
    UniqW = Counter(input)

    # joins two adjacent elements in iterable way
    s = " ".join(UniqW.keys())
    print (s)

# Driver program
if __name__ == "__main__":
    input = 'Python is great and Java is also great'
    remov_duplicates(input)

```

4. Python | Remove all characters except letters and numbers

```
s="Hello$ Python3$"
s1=s.replace("$","")
print (s1)
#Output:Hello Python3
```

5. Python Regex | Program to accept string ending with an alphanumeric character

```
# Python program to accept string ending
# with only alphanumeric character.
# import re module
```

```
# re module provides support
# for regular expressions
import re
```

```
# Make a regular expression to accept string
# ending with alphanumeric character
regex = '[a-zA-z0-9]$'
```

```
# Define a function for accepting string
# ending with alphanumeric character
def check(string):
```

```
    # pass the regular expression
    # and the string in search() method
    if(re.search(regex, string)):
        print("Accept")
```

```
    else:
        print("Discard")
```

```
# Driver Code
```

```
if __name__ == '__main__':
```

```
    # Enter the string
    string = "ankirai@"
```

```
    # calling run function
```

```
check(string)

string = "ankitrai326"
check(string)

string = "ankit."
check(string)

string = "geeksforgeeks"
check(string)
```

6. Python Regex – Program to accept strings starting with a vowel

Python program to accept string starting with a vowel

```
# import re module

# re module provides support
# for regular expressions
import re

# Make a regular expression
# to accept string starting with vowel
regex = '^[aeiouAEIOU][A-Za-z0-9_]*'

# Define a function for
# accepting string start with vowel
def check(string):

    # pass the regular expression
    # and the string in search() method
    if(re.search(regex, string)):
        print("Valid")

    else:
        print("Invalid")

# Driver Code
if __name__ == '__main__':
```

```
# Enter the string
string = "ankit"

# calling run function
check(string)

string = "geeks"
check(string)

string = "sandeep"
check(string)
```

7. Python Program to check if a string starts with a substring using regex

```
# import library
import re

# define a function
def find(string, sample) :

# check substring present
# in a string or not
if (sample in string):

    y = "^" + sample

    # check if string starts
    # with the substring
    x = re.search(y, string)

    if x :
        print("string starts with the given substring")

    else :
        print("string doesn't start with the given substring")

else :
    print("entered string isn't a substring")
```

```

# Driver code
string = "geeks for geeks makes learning fun"
sample = "geeks"

# function call
find(string, sample)

sample = "makes"

# function call
find(string, sample)

```

8. Python Program to Check if an URL is valid or not using Regular Expression

```

# Python3 program to check
# URL is valid or not
# using regular expression
import re

# Function to validate URL
# using regular expression
def isValidURL(str):

    # Regex to check valid URL
    regex = ("((http|https):/)(www.)?" +
             "[a-zA-Z0-9@:%._\\+~#?&//=]" +
             "{2,256}\\.[a-z]" +
             "{2,6}\\b([-a-zA-Z0-9@:%" +
             "._\\+~#?&//=]*)")

    # Compile the ReGex
    p = re.compile(regex)

    # If the string is empty
    # return false
    if (str == None):
        return False

    # Return if the string

```

```

        # matched the ReGex
        if(re.search(p, str)):
            return True
        else:
            return False

# Driver code

# Test Case 1:
url = "https://www.geeksforgeeks.org"

if(isValidURL(url) == True):
    print("Yes")
else:
    print("No")

```

9. Parsing and Processing URL using Python – Regex

```

# import library
import re

# url link
s = 'https://www.geeksforgeeks.org/'

# finding the protocol
obj1 = re.findall('(\w+)://',
                  s)
print(obj1)

# finding the hostname which may
# contain dash or dots
obj2 = re.findall('://www.([\w\-\\.]+)',
                  s)
print(obj2)

```

10. Python Program to validate an IP address using ReGex

```

# Python program to validate an Ip address

```

```
# re module provides support
# for regular expressions
import re

# Make a regular expression
# for validating an Ip-address

regex =
"^(25[0-5]|2[0-4][0-9]|1[0-9][0-9]|[1-9]?[0-9])\.){3}(25[0-5]|2[0-4][0-9]|1[0-9][0-9]|[1-9]?[0-9])$"

# Define a function for
# validate an Ip address
def check(Ip):

    # pass the regular expression
    # and the string in search() method
    if(re.search(regex, Ip)):
        print("Valid Ip address")

    else:
        print("Invalid Ip address")

# Driver Code
if __name__ == '__main__':
```



```
# Enter the Ip address
```

```
Ip = "192.168.0.1"
```

```
# calling run function
```

```
check(Ip)
```

```
Ip = "110.234.52.124"
```

```
check(Ip)
```

```
Ip = "366.1.2.2"
```

```
check(Ip)
```

