Day 10 – REGULAR EXPRESSION

● Python has a built-in package called re, which can be used to work with Regular Expressions.

```
Import re
```

● The re module offers a set of functions that allows us to search a string for a match: A Regular Expression (RegEx) is a sequence of characters that defines a search pattern. For example,

```
^b...g$
```

● The above code defines a RegEx pattern. The pattern is: any five letter string starting with b and ending with g.

● A pattern defined using RegEx can be used to match against a string.

re.findall()

The re.findall() method returns a list of strings containing all matches.

re.split()

The re.split method splits the string where there is a match and returns a list of strings where the splits have occurred.

re.sub()

The syntax of re.sub() is:

```
re.sub(pattern, replace, string)
```

re.search()

The re.search() method takes two arguments: a pattern and a string. The method looks for the first location where the RegEx pattern produces a match with the string.

Exercise:

Write a Python program for all the cases which can check a string contains only a certain set of characters (in this case a-z, A-Z and 0-9).

In [1]:
```
import re
def check(string):
    char = re.compile(r'[^a-zA-Z0-9.]')
    string = char.search(string)
    return not bool(string)

print(check(input()))
```

```
aahana@16
False
```

Write a Python program that matches a word containing 'ab'.

In [2]:
```
import re
def match(text):
        pattern = '\w*ab.\w*'
        if re.search(pattern,  text):
                return 'Found a match!'
        else:
                return 'Not matched!'

print(match(input()))
```

```
absolutely
Found a match!
```

Write a Python program to check for a number at the end of a word/sentence.

In [3]:
```
import re
def f(n):
    a=re.compile(r".*[0-9]$")
    if a.match(n):
        return True
    return False

print(f(input()))
```

```
aahana 16
True
```

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

In [7]:
```
import re
results = re.finditer(r"([0-9]{1,3})", input())
for n in results:
     print(n.group(0))
```

```
akj16@20
16
20
```

Write a Python program to match a string that contains only uppercase letters.

In [9]:
```
import re
def check(string):
    r = re.compile(r'[^A-Z.]')
    st = r.search(string)
    return not bool(st)

print(check("ABCabc123"))
print(check("COVID19"))
print(check("HELLO"))
```

```
False
False
True
```

Completed Day 10's notes & exercises

THANK YOU!

Check out My Repository at https://github.com/AakankshaJarode/BestEnlist_Python_Internship.git (https://github.com/AakankshaJarode/BestEnlist_Python_Internship.git)

Chech out My LinkedIn Page at https://www.linkedin.com/in/aakanksha-jarode-1b0195179 (https://www.linkedin.com/in/aakanksha-jarode-1b0195179)