DATA TYPE

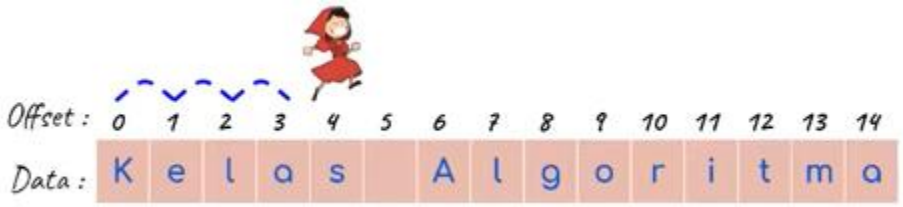
```
>>data='2020'
>>type(data)
str
>>data=2020
>>type(data)
int
```

★ String → started and ended with quotation mark, i.e., ‘, or, “

★ Consists of character or characters (alphabet, numeric, or others)

★ Operations: concatenate (+), repetition (*)

ACCESSING STRING



Offset, index, start with ‘zero’ (0)

```
>>strVar[a:b]
```

★ Retrieve characters from offset **a** up to offset **b-1**

★ [n], [:], [a:], [:b], [-1], [:-1]

```
In [2]: data="Kelas Algoritma"
        print(data)
```

```
Kelas Algoritma
```

```
In [5]: print(data[6])
        print(data[4])
        print(data[0:4])
```

```
A
s
Kela
```

```
In [6]: print(data[6])
        print(data[4])
        print(data[0:5])
```

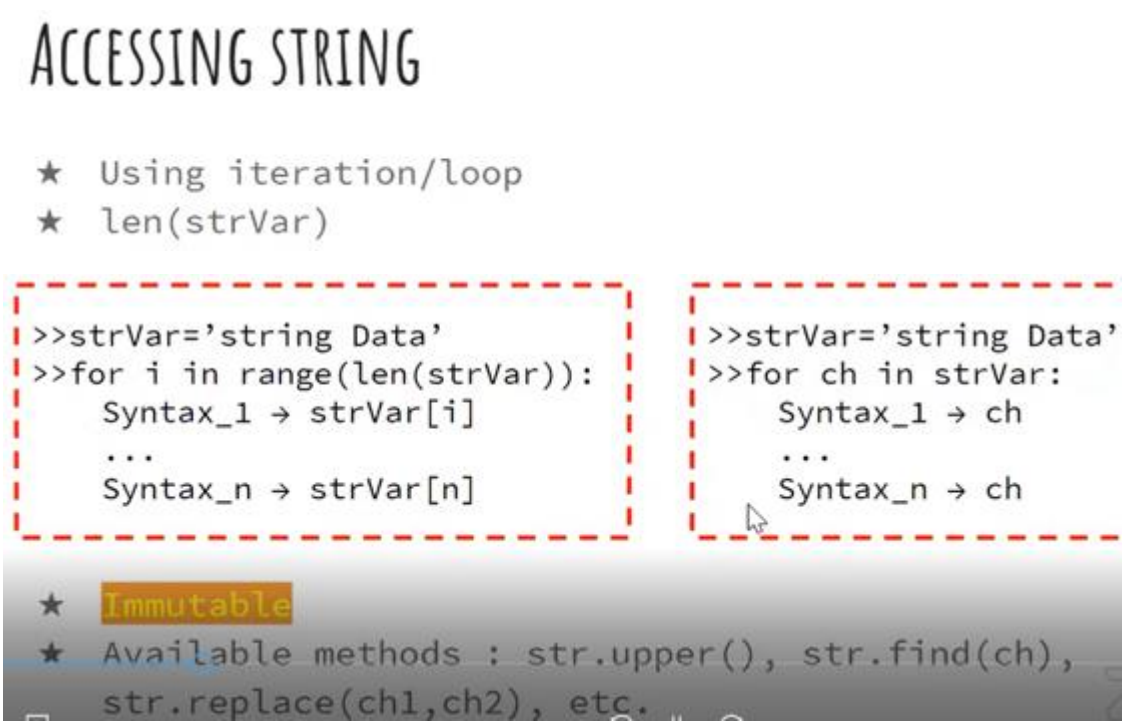
```
A
s
Kelas
```

```
In [10]: print(data[6])
         print(data[4])
         print(data[0:5])
         print(data[4:7])
         print(data,data[:])
         print(data[6:])
         print(data[:5])

A
s
Kelas
s A
Kelas Algoritma Kelas Algoritma
Algoritma
Kelas
```

```
print(data[6:-1]
```

```
print(data[6:-1],data[6:14])
```


```
Algoritm Algoritm
```



Jumlah data: 15, tapi index dari 0-14

karena pada iterasi diperlukan jmh karakter maka diperlukan perintah ‘len’ yg menunjukkan jumlah data

```
In [13]: data='Kelas Algoritma'
         numData=len(data)
         for i in range(numData):
             print(data[i])

K
e
l
a
s

A
l
g
o
r
i
t
```

```
In [14]: data='Kelas Algoritma'
         for ch in data:
             print(ch)

K
e
l
a
s

A
l
g
o
```

langsung mengakses semua karakter pada variabel 'data'

Sifat type data string: tidak dpt diubah (immutable)

```
In [16]: print(data[0])
         data[0]='T'

K

---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-16-f5c524e545e4> in <module>
      1 print(data[0])
----> 2 data[0]='T'

TypeError: 'str' object does not support item assignment
```

Type data string tdk dpt diubah dg operator assignment, tapi bisa diubah dg method/fungsi yg sdh disediakn Phyton.

Method/fungsi mrpkn aktifitas (memerintahkan sesuatu), cth: tulis di buku, tutup pintu. Klo variabel = obyek.

Phyton sdh menyediakn method utk mengolah string, spt: upper,find & replace.

Beda variabel / method, klo method diikuti oleh ().

```
In [17]: data='Kelas Algoritma'
```

```
In [18]: print(data.upper())
KELAS ALGORITMA
```

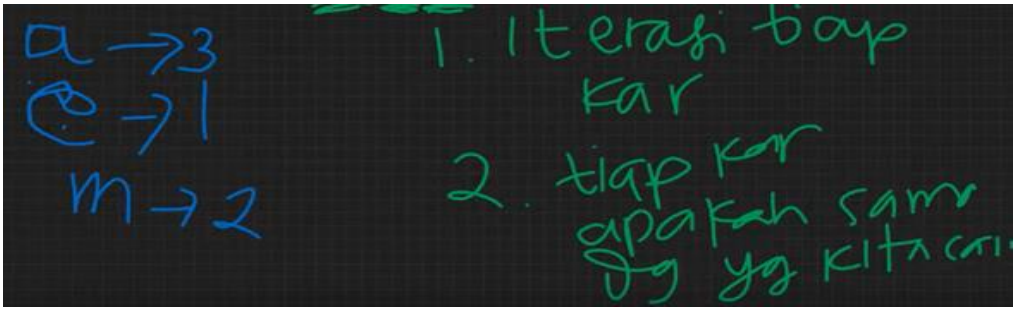
```
In [19]: print(data.upper(),data.find('a'))
KELAS ALGORITMA 3
```

yg diambil indeks ke 3 (a yg pertama saja)

```
In [22]: print(data.upper(),data.find('s'))

KELAS ALGORITMA 4
```

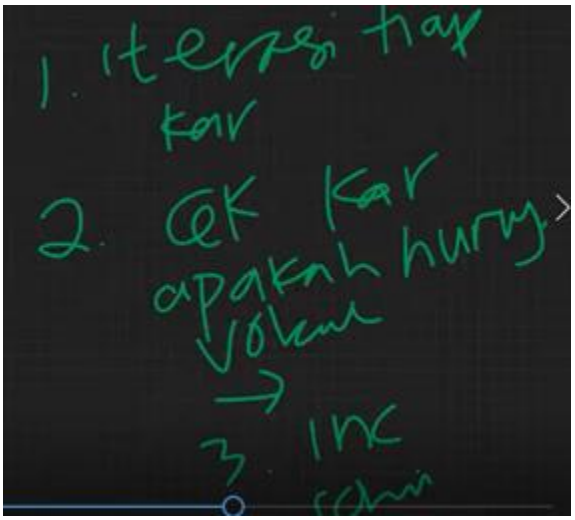
```
In [20]: print(data.upper(),data.find())

---------------------------------------------------------------
TypeError                                 Traceback (
<ipython-input-20-f2c6a4b81586> in <module>
----> 1 print(data.upper(),data.find())

TypeError: find() takes at least 1 argument (0 given)
```

Buatlah code untuk menentukan jumlah tertentu dari suatu karakter dari type data string (input dari user).




```
In [28]:
1 data='matematika'
2 ch=input('masukkan karakter = ')
3 counter=0
4 for karakter in data:
5     if karakter==ch:
6         counter=counter+1
7         #counter+=1
8 print(counter)

masukkan karakter = m
2
```

Buatlah code untuk menentukan jumlah huruf vokal dari suatu karakter dari type data string (input dari user).




```
data='matematika'
counter=0
for karakter in data:
    if karakter=='a' or karakter=='i' or karakter=='u' or karakter=='e' or karakter=='o' :
        counter=counter+1
        #counter+=1
print(counter)
```

```
5
```