Immutable Data Dtacture

1.String
2.Tuple

~ **Access the charecter of String**

1.By using index
2.By using operator

1.By using index

In [2]:
```
s='hello world'
print(s[2])
print(s[5])
print(s[6])
```

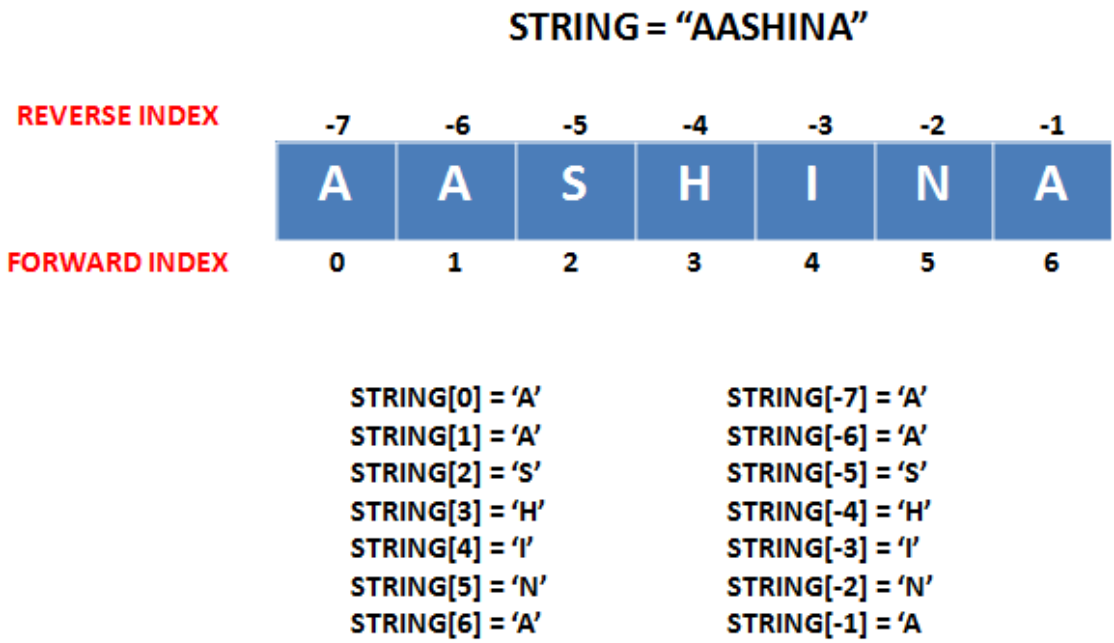
```
l

w
```

In [3]:
```
print(s[20]) # error
```

```
---------------------------------------------------------------------------
IndexError                                Traceback (most recent call last)
<ipython-input-3-96e510af8929> in <module>
----> 1 print(s[20])

IndexError: string index out of range
```



2.By using operator

s [begin index : end index : step]

In [13]:
```
s="Learning python id vary easy."
print(s[1:7:1])#starting index < end index
print(s[1:7])
```

```
print(s[:7])
print(s[5:])
print(s[1:7:2])
print(s[::2])
print(s[:])
print(s[::])
print(s[::-1])
print(s[-5::])
print(s[-5:-1:])
print(s[0:0])
```

```
earnin
earnin
Learnin
ing python id vary easy.
eri
Lann yhni ayes.
Learning python id vary easy.
Learning python id vary easy.
.ysae yrav di nohtyp gninraeL
easy.
easy
```

In [18]:
```
#Palidrome or not
s=input("Enter string:")
if s==s[::-1]:
    print('Palidrome')
else:
    print("Not Palidrome")
```

```
Enter string:abcba
Palidrome
```

:- Mathemetical operator for string

In [19]:
```
print("hi "+"Arman")
print("Arman"*3)
```

```
hi Arman
ArmanArmanArman
```

:- Comparison of String

In [24]:
```
s1=input("Enter String 1:")
s2=input("Enter String 2:")
if s1==s2:
    print("Both String are equal")
elif s1<s2:                                  #use ASCII val for compare
    print("Second String is greater")
else:
    print("First String is grater")
```

```
Enter String 1:aaasddadadad
Enter String 2:z
Second String is greater
```

:- Joining of String

-Join a group of Strings wre the given separator.
Syntax:
s=separator.join(group of string)

In [30]:
```
t=('Arman',"Aryan","Dhairya")
print(''.join(t))
```

```
print(' '.join(t))
print(' $ '.join(t))
```

```
ArmanAryanDhairya
Arman Aryan Dhairya
Arman $ Aryan $ Dhairya
```

:- Formatting of String

In [36]:
```
name='Aryan'
salary=40000
age=24
print("{}'s Salary is {} and age is{}".format(name,salary,age))
print("{1}'s Salary is {0} and age is{2}".format(name,salary,age))
```

```
Aryan's Salary is 40000 and age is24
40000's Salary is Aryan and age is24
```

:- Importance Function of string

In [37]:
```
# 1.len()
s="abcd"
print(len(s))
```

```
4
```

In [47]:
```
# Renoving Sapaces from String
# 1.lstrip()
# 2.rstrip()
# 3.strip()
s='    a    '
s.lstrip()
```

Out[47]:
```
'a    '
```

In [48]:
```
s.rstrip()
```

Out[48]:
```
'    a'
```

In [49]:
```
s.strip()
```

Out[49]:
```
'a'
```

In [79]:
```
s='banana'
x=s.rstrip("a")
y=s.lstrip('a')
print(x)
print(y)
z=s.strip('an')
print(z)
```

```
banan
banana
b
```

In [81]:
```
#Changing the case of String
# 1.upper()
# 2.lower()
s='Hello World'
x=s.upper()
print(x)
y=s.lower()
print(y)
```

```
HELLO WORLD
hello world
```

In [83]:
```
#3.swapcase()
z=s.swapcase()
print(z)
```

```
hELLO wORLD
```

In [84]:
```
#4.title()
s="HELLO HOW ARE YOU"
x=s.title()
print(x)
```

```
Hello How Are You
```

In [85]:
```
#5. capitalize()
y=s.capitalize()
print(y)
```

```
Hello how are you
```

In [90]:
```
#To Check type of charecter present in a String(ans in true or false)
# 1.isalnum() return if string contain(a-z,0-9,A-Z)
x='Company123'
print(x.isalnum())
x='Company 123'
print(x.isalnum())
```

```
True
False
```

In [91]:
```
# 2.isalpha()         true if (a-z,A-Z)
x='CompanyX'
print(x.isalpha())
```

```
True
```

In [92]:
```
#3.isdigit()
x='5050505'
print(x.isdigit())
x='aaa555'
print(x.isdigit())
```

```
True
False
```

In [100…
```
#4.islower()
t='Hello World'
x=t.islower()
print(x)
```

```
False
```

In [101…
```
#5.isupper()
t='Hello'
x=t.isupper()
print(x)
```

```
False
```

In [103…
```
#6.istitle()
t='Hello HOW ARE You'
x=t.istitle()
print(x)
print('Hello How Are You'.istitle())
```

```
False
True
```

In [104…
```
a='22 Names' # check only letters
b='The Is %'
print(a.istitle())
print(b.istitle())
```

```
True
True
```

In [105…
```
#7.isidentifier()   check identifier rule and give true and false
a='MyFolder'
b='Demo002'
c='2bring'
d='my demo'
e='my_demo'
print(a.isidentifier())
print(b.isidentifier())
print(c.isidentifier())
print(d.isidentifier())
print(e.isidentifier())
```

```
True
True
False
False
True
```

In [107…
```
#8.isspace()
t=' '
print(t.isspace())
t=' a'
print(t.isspace())
```

```
True
False
```

In [111…
```
#count number of space
s='Hello How Are You'
c=0
u=0
l=0
for i in s:
    if i.isspace():
        c=c+1
    if i.isupper():
        u=u+1
    if i.islower():
        l=l+1
print("Space ",c)
print("Char" ,len(s)-c)
print('upper',u)
print('lower',l)
```

```
Space  3
Char 14
upper 4
lower 10
```

In [1]:
```
#if string is even print string byt id its odd print 1 che ,mid chr, and last char
s=input("Enter String:")
if len(s)%2==0:
    print(s)
else:
    print(s[0]+s[len(s)//2]+s[-1])
```

```
Enter String:qwert
qet
```

In [2]:

```
s='py$t00567@23hon@_'
#num of char,digit,specialchar
c=0
d=0
sc=0
sum=0
for i in s:
    if i.isalpha():
        c+=1
    if not i.isalnum():
        sc+=1
    if i.isnumeric():
        sum=sum+int(i)
        d=d+1

print(c)
print(d)
print(sc)
print(sum)
print(sum/d)
```

```
6
7
4
23
3.2857142857142856
```

In [ ]: