

str = "Hello"  
0 1 2 3 4

print(str[2])

str = "Hello, How are you?"  
-1

print(str[11])

print(str[-1])

↳ 0  
↳ ?

# slicing

strings

str = "Hello, How are you?"

print(str[6:9])

↓  
Included

↓  
Excluded

[start : End : skip ]

str="Hello, How are you?"

↑  
i

↑  
j

i++

j--

while (i < j)

swap → Temp = a  
a = b  
b = Temp

i++

j--

"Hello, How are you"

-you are How Hello

"Hello, How are you?"

length of a string

[str.length() ] → in java

len(str)

```
str="Hello, How are you?"  
print(len(str))  
print(type(str))
```

```
str="arun"  
print(str.upper())  
str2="ARUN kumar"  
print(str2.lower())
```

# index()

find()

```
str="Hello, How are you"  
print(str.index("z")) # throws the exception(ValueError) is no value found  
print(str.find("z")) # return -1 if no value found
```

```
str="Hello, How are you"  
if ("are" in str) :  
    print("Yes, It is present in the String")
```

```
str="Hello, How are you"  
print("How" not in str)
```

# # Concatination

str1

str2

str1 and str2

# # LIST

List = ["Annu", <sup>150</sup>12/3, 12.3, Ten] 3

- ↳ ordered
- ↳ changeable
- ↳ Allow Duplicate

l = ["Annu", "Rohit", "Vikas"]

```
print(l)  
print(type(l))
```

```
l=["Arun", "Rohit", "Divas", "Arun"]  
print(l)
```

```
l1=["Arun", 123, "Divas", 12.4, True, False]  
l2 = [1,2,3,4,5]  
print(l1)  
print(type(l1))
```

```
l1=["Arun", 123, "Divas", 12.4, True, False]  
l2 = [1,2,3,4,5]  
print(l1[2])  
print(l1[0])  
print(l1[5])
```

```
list= [1,2,3,4,5,6,7,8]  
print(list[0:5])  
|
```

```
list= [1,2,3,4,5,6,7,8]  
print(list[0:8:2])
```

```
list= [1,2,3,4,5,6,7,8]
```

```
list[2:4] = ["Arun", "Amit", "Sumit"]
```

```
print(list)
```

```
list= [1,2,3,4,5,6,7,8]
```

```
list.append(9)
```

```
list.append(10)
```

```
print(list)
```

```
list= [1,2,3,4,5,6,7,8]
```

```
list.remove(4)
```

```
print(list)
```

Q: find the  $\Sigma$  of all the element in list  
[2, 7, 9, 1, 4, 12]

o/p sum = 35

```
list = [2, 7, 9, 1, 4, 12]
sum = 0
l = len(list)
for i in range(l):
    sum = sum + list[i]

print("The sum of list is: ", sum)
```

0 1 2 3 4 5  
[ 2, 7, 9, 1, 4, 12]  
a  
↓  
list[0]  
b  
↓  
list[5]

len(list)  
↳ 6

len = a  
a = b  
b = len