string-ds

August 27, 2023

1 String data structure

Anything which is enclosed inside a double quotes or single quote is called as a string.

```python
# String

a ='A.P.J.Abdul Kalam was an Indian Aerospace Scientist'
```

Basic Operations: 1. len 2.type 3.check for a sequence 4.Accessing 5.Looping

```python
# Length

print(len(a))
```

```
51
```

```python
# Type

print(type(a))
```

```
<class 'str'>
```

```python
# Checking a sequence

if 'Aerospace' in a:
  print("Yes")
else:
  print("No")
```

```
Yes
```

```python
# Accessing

print(a[15])
```

```
a
```

```python
# Looping
```

```python
for i in a:
    print(i,end="")
```

A.P.J.Abdul Kalam was an Indian Aerospace Scientist

```python
for i in range(len(a)):
    print(a[i],end="")
```

A.P.J.Abdul Kalam was an Indian Aerospace Scientist

```python
i=0
while i<len(a):
    print(a[i],end="")
    i+=1
```

A.P.J.Abdul Kalam was an Indian Aerospace Scientist

2 Advanced Operations

1. Slicing 2.Modifying 3.Concatenation 4.Formating 5.Escape character

3 Slicing

```python
print(a[4:18])
```

J.Abdul Kalam

```python
# Negative indexing

print(a[-12:-2])
```

ce Scienti

4 Modifying

```python
a.upper()
```

'A.P.J.ABDUL KALAM WAS AN INDIAN AEROSPACE SCIENTIST'

```python
a.lower()
```

'a.p.j.abdul kalam was an indian aerospace scientist'

```python
a.isupper()
```

False

```
a.islower()
```

False

```
a.istitle()
```

False

```
a.strip()
```

'A.P.J.Abdul Kalam was an Indian Aerospace Scientist'

```
a.replace("A","%")
```

'%.P.J.%bdul Kalam was an Indian %erospace Scientist'

```
a.replace("%","A")
```

'A.P.J.Abdul Kalam was an Indian Aerospace Scientist'

```
a.split("a")
```

['A.P.J.Abdul K', 'l', 'm w', 's ', 'n Indi', 'n Aerosp', 'ce Scientist']

```
"-".join(a)
```

'A-.-P-.-J-.-A-b-d-u-l- -K-a-l-a-m- -w-a-s- -a-n- -I-n-d-i-a-n- -A-e-r-o-s-p-a-c-e- -S-c-i-e-n-t-i-s-t'

```
a.swapcase()
```

'a.p.j.aBDUL kALAM WAS AN iNDIAN aEROSPACE sCIENTIST'

```
a.casefold()
```

'a.p.j.abdul kalam was an indian aerospace scientist'

```
a.capitalize()
```

'A.p.j.abdul kalam was an indian aerospace scientist'

```
a.title()
```

'A.P.J.Abdul Kalam Was An Indian Aerospace Scientist'

```
a.istitle()
```

```
[ ]: False
```

```
[ ]: a.endswith("s")
```

```
[ ]: False
```

```
[ ]: a.startswith("A")
```

```
[ ]: True
```

```
[ ]: a.count('i')
```

```
[ ]: 3
```

```
[ ]: a.find('a')
```

```
[ ]: 13
```

```
[ ]: a.index('a')
```

```
[ ]: 13
```

```
[ ]: a.rjust(70)
```

```
[ ]: '                   A.P.J.Abdul Kalam was an Indian Aerospace Scientist'
```

```
[ ]: a.ljust(72)
```

```
[ ]: 'A.P.J.Abdul Kalam was an Indian Aerospace Scientist                     '
```

```
[ ]: a.center(80)
```

```
[ ]: '               A.P.J.Abdul Kalam was an Indian Aerospace Scientist
     '
```

```
[ ]: a.isalnum()
```

```
[ ]: False
```

```
[ ]: a.isalpha()
```

```
[ ]: False
```

```
[ ]: a.isdigit()
```

```
[ ]: False
```

```
[ ]: a.isnumeric()
```

```
[ ]: False
```

```
[ ]: a.isascii()
```

```
[ ]: True
```

5 Concatenation

```
[ ]: a_str="Hello, am good."
     b_str="How are you?"

     print(a_str+b_str)    # Using plus operator
```

```
Hello, am good.How are you?
```

```
[ ]: print(a_str,b_str)    # Using comma
```

```
Hello, am good. How are you?
```

6 Formatting

```
[ ]: n=2
     m=6
     r=18
     w="I bought {} chocolates for my {} friends for a total cost of Rs.{}"

     print(w.format(m,n,r))
```

```
I bought 6 chocolates for my 2 friends for a total cost of Rs.18
```

```
[ ]: q="I bought {1} chocolates for my {0} friends for a total cost of Rs.{2}"

     print(q.format(n,m,r))
```

```
I bought 6 chocolates for my 2 friends for a total cost of Rs.18
```

```
[ ]: d="I have {a} oranges and {b} apples for my {c} friends"
     d.format(a=3,b=4,c=7)
```

```
[ ]: 'I have 3 oranges and 4 apples for my 7 friends'
```

7 Escape character

```
[ ]: num="I am good " at singing"
```

```
  File "<ipython-input-135-6fb536e20a9c>", line 3
    num="I am good " at singing"
                              ^
SyntaxError: unterminated string literal (detected at line 3)
```

```
[ ]: num="I am good \" at singing"      # Using a forward slash beforehand any␣
      ↪illegal character
```