Strings

Introduction

```
print("abaaaa")
```

```
abaaaa
```

```
print("abc##%^&")
```

```
abc##%^&
```

```
# print("abb12345"")

# print("abb12345')

s = "Sahil Bansal"
print(s)
```

```
Sahil Bansal
```

```
# s = "abb12345"" ---> extra closing double quote

s = "Sahil's phone"
print(s)
```

```
Sahil's phone
```

```
s = "Sahil\"s phone"  # \" -> an escape character or a special character
print(s)
```

```
Sahil"s phone
```

```
print("Sahil\nphone")
```

```
Sahil
phone
```

```
print(100 == "100")

print(100 == True)
```

```
False
False
```

```
print(int('3') == 3)
```

```
True
```

```
print(str(100) == "100") # typecast an integer to a string
```

```
True
```

```
print(2 + 3)
print('2' + '3') # concatenation
```

```
5
23
```

Challenge 1:

Take a string as input and print all the characters in a newline.

Input: "India"

Output:

I

n

d

i

a

```
my_country = input()
print(my_country)
```

```
India
India
```

```
for i in my_country:
  print(i)
```

```
I
n
d
i
a
```

```
print(type(my_country))
```

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

Double-click (or enter) to edit

Challenge 2:

Given a string as input, print the first and the last character of the string.

Input: "India"

Output:

I

a

```
s = "India"
```

```
n = len(s)
print(n)
```

```
5
```

```
print(s[0])
```

```
I
```

```
print(s[-1])
```

```
a
```

String Slicing

```
print(s[:2]) # print 1st two
```

```
In
```

```
print(s[-2:]) # print last two
```

```
ia
```

Mutability

```
l = [1, 5, 7, 4] # lists are mutable (we can change val at given index)
```

```
l[0] = 9
print(l)
```

```
[9, 5, 7, 4]
```

```
s = "Interviewbit Academy"

# s[0] = "I" --> strings are not mutable, can't change a value in a string
# can't change a value at a given index in string

print(s)
print(id(s)) # location of the space for the variable
```

```
Interviewbit Academy
140116094265424
```

```
s = "My Country" # you can replace entire string, it is a copy
# it is a new container
print(s)

print(id(s)) # location of the space for the variable -> has changed
```

```
My Country
140116094615152
```

```
s = "India"
print(s)

print(id(s))
```

```
India
140116236529136
```

```
s = "Interviewbit"
t = "Scaler"

print(s)
print(id(s))

print(t)
print(id(t))
```

```
Interviewbit
140116094486192
Scaler
140116237361520
```

```
l = [1, 2, 3]
print(id(l))

l[0] = 9
print(id(l))
```

```
140116094593776
140116094593776
```

Challenge 3:

Take a string as input and print the ASCII value of the characters in it.

```
print(ord('a'))
```

```
97
```

```
print(ord('A'))
```

```
65
```

```
print(ord('0'))
```

```
48
```

```
s = "India"

for i in s:
  print(ord(i))
```

```
73
110
100
105
97
```

```
print(ord(' '))
```

```
32
```

```
print(ord('%'))
```

```
37
```

Given a ASCII value, convert that to a character

```
print(chr(97))
```

```
a
```

```
print(chr(65))
```

```
A
```

```
print(chr(48))
```

```
0
```

```
# 256 ASCII values

for i in range(256):
  print(chr(i), end=' ')
```

```
 ! " # $ % & ' ( ) * + , - . / 0 1 2 3 4 5 6 7 8
```

```
print(ord('['))
```

```
91
```

```
print(ord('🌙'))
```

```
127769
```

```
print(ord('🌞'))
```

```
127774
```

```
help(ord)
```

```
Help on built-in function ord in module builtins:

ord(c, /)
    Return the Unicode code point for a one-character string.
```

```
print(chr(127774)) # converts the unicode to the character
```

```
🌞
```

```
print(ord('😂'))
```

```
128514
```

```
print(ord('☺'))
```

```
9786
```

```
print(ord(' '))
```

```
4151
```

Challenge 4:

Given a string as input, print it 3 times without any space. (can't use a loop)

Input: "India"

Ouput: "IndiaIndiaIndia"

```
print('India' + 'India' + 'India')
```

```
IndiaIndiaIndia
```

```
print('India'*3)
```

```
IndiaIndiaIndia
```

```
s = 'India' + 'India' + "India"

print(s)
print(len(s))
```

```
IndiaIndiaIndia
15
```

```
s = 'India'*3

print(s)
print(len(s))
```

```
IndiaIndiaIndia
15
```

```
city = "Phoenix"
print(len(city*3))
```

```
21
```

Challenge 5:

Given a string as input, count the no of upper case characters (A - Z) in it.

```
# capital is the new small
# A: 65
# Z: 90
```

```
# a: 97
# z: 122



s = "IndiaRocks"



cnt = 0
for i in s:
  if ord(i) >= 65 and ord(i) <= 90:
    # upper case
    cnt += 1

print(cnt)
```

```
2
```

```
cnt = 0
for i in s:
  if i >= 'A' and i <= 'Z':
    # upper case
    cnt += 1

print(cnt)
```

```
2
```

```
cnt = 0
for i in s:
  if i.isupper():
    # upper case
    cnt += 1

print(cnt)
```

```
2
```

```
print('c'.isupper())
print('c'.islower())
```

```
False
True
```

```
print('C'.isupper())
```

```
True
```

Challenge 6:

Convert the string to lower case.

Input: "INdiA"

Output: "india"

```
print('Sahil@SCALER.com' == 'sahil@scaler.com')
```

```
False
```

```
s = "SaHIL@scaler.com"

print(s.lower())
```

```
sahil@scaler.com
```

```
s = "INdiA"
print(s.lower())
```

```
india
```

```
print(s.upper())
```

```
INDIA
```

```
print(s.capitalize())
```

```
India
```

```
s = "my country is india"

print(s.capitalize())
```

```
My country is india
```

```
print(s.title())
```

```
My Country Is India
```

```
s = "INdiA"

l = []

for i in s:
  if i.isupper():
    # add 32 here
    x = ord(i) + 32
```

```
    else:
      x = ord(i)

    print(chr(x), end='')
    l.append(chr(x)) # add the lower case character to a list

  print()
  print(l)

  # concatenate the string from these characters
  # new_s = ''+ l[0] + l[1] + l[2] + l[3] + l[4]
  # print(new_s)

  ans = ''
  for i in l:
    ans += i

  print(ans)
```

```
    india
    ['i', 'n', 'd', 'i', 'a']
    india
```

```
  l = ['i', 'n', 'd', 'i', 'a']

  s = ''.join(l)
  print(s)
```

```
    india
```

```
  s = 'my country is india'
  l = s.split()
  print(l)
```

```
    ['my', 'country', 'is', 'india']
```

```
  s = ' '.join(l)
  print(s)
```

```
    my country is india
```

Quizzes

```
  def spongebob(str):
    new_str = ""
    for ind, char in enumerate(str):
      if ind % 2 == 1:
        # odd index character is becoming lower
        new_str += char.lower()
      else:
        # even index character is becoming upper
```

```
        new_str += char.upper()
    return new_str


print(spongebob('scaler'))
```

```
    ScAlEr
```

```
l = [5, 1, 6, 9, 10]

for i, v in enumerate(l):
  print(i, v)
```

```
    0 5
    1 1
    2 6
    3 9
    4 10
```

```
def unique(str):
  letters = []

  for char in str:
    if char not in letters: # if the character is not present in the letters
      letters.append(char)

  return letters


res = unique('apple')
print(res)
```

```
    ['a', 'p', 'l', 'e']
```

```
def mystery(str):
  i = int(len(str)/2)
  print(i)
  a = str[:i]
  print(a)
  b = str[i:]
  print(b)
  return a.upper() + b.lower()

print(mystery("abracadabra"))
```

```
    5
    abrac
    adabra
    ABRACadabra
```

```
s = "India"
print(id(s))
```

```
s = "India"
print(id(s))
```

```
140116093823344
140116093823344
```

```
print(type('I'))
```

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

Doubts

```
s = """This
is
multi
line"""

print(s)

print(len(s))
```

```
This
is
multi
line
18
```

```
print('🌟🌟🌙🌟🌟⭐')
```

🌟🌟🌙🌟🌟⭐

✓ 0s completed at 23:35