

PYTHON STRINGS

Q1 Give the output:

1. `>>> print("Rajan said, 'It' a lovely day")`
2. `>>> print("Ram said, \"I AM LEARNING PYTHON")`
3. `>>> print("Ram said, 'I AM LEARNING PYTHON')"`
4. `>>> print ('Sangeeta said, "I've got good grades" ')`
5. `>>> print ('Sangeeta said, "I've got good grades" ')`
6. `>>> print("A goal \n without a plan is just a \t wish")`

Solution

1. Rajan said, "It's a lovely day"
2. Ram said, "I AM LEARNING PYTHON"
3. `SyntaxError: invalid syntax`
4. Sangeeta said, "I've got good grades"
5. A goal
without a plan is just a wish

Q2 Give the elements of the following string which are present at the given index numbers:

`str="Hard work pays off"`

1. `str [2]`
2. `str [-3]`
3. `str [2:5]`
4. `str [2:5:2]`
5. `str [:5]`
6. `str [3:]`
7. `str [::2]`
8. `str [::-2]`
9. `str [-5:-2]`
10. `str [5:2:-1]`
11. `str [-2:-5:-1]`
12. `str [-2:-5:-2]`

Solution

1. 'r'
2. 'o'
3. 'rd '
4. 'r '
5. 'Hard '

6. 'd work pays off
7. 'Hr okpy f
8. 'fosa nwda'
9. 's o'
10. 'w d'
11. 'fo '
12. 'f '

Q3. Consider the following strings:

str1="Dreams don't work unless you do"

str2="Hard work pays off"

Identify which of the following operations is possible on strings. If possible, write Python statements for the following:

1. To add "Thanks" at the end of the string str1.
2. To add string str2 at the end of the string str1.
3. To replace the word "unless" in the string str1 with "if".
4. To insert the word "Thanks" after the word "Dreams" in string str1.

`S = str1[0:7] + 'Thanks' + str1[7:]`

5. To remove the third character from the string str1.
6. To delete the entire string str1.
7. To traverse the string str1 using a for loop.
8. To traverse the string str2 using a while loop.

Solution

- a. `print(str1+"Thanks")`
- b. `print(str1+str2)`
- c. `print(str1.replace("unless", "if"))`
- d. Insertion in between is not possible in the strings
- e. Deletion of a character is not possible in the strings
- f. `del str1`
- g. `for l in str1:`
`print(l)`
- h. `i=0`
`while i<len(str2):`
`print(str[i])`
`i=i+1`

Q4. Consider the strings str1 and str2 and give the output of the following Python statements:

str1="Dreams don't work unless you do"

str2="Hard work pays off"

1. str2=str1+str2
2. str1=str2+str1
3. str2=str*2
4. "work" in str1
5. "off" not in str2

Solution

1. Dreams don't work unless you doHard work pays off
2. Hard work pays offDreams don't work unless you do
3. Dreams don't work unless you doDreams don't work unless you do
4. True
5. False

Q5. Give the output of the following Python statements:

str1="Information age #2018"

str="@"

1. len(str1)
2. print(str1.capitalize())
3. print(str1.isalnum())
4. print(str1.isalpha())
5. print(str1.isdigit())
6. print(str1.lower())
7. print(str1.upper())
8. print(str1.islower())
9. find('In')
10. find('a')
11. find('a', 8)
12. find('in')
13. print (str1.isspace())
14. print(str1.isupper())
15. istitle()
16. join(str1)
17. print(str1.replace('a', '@'))
18. partition('age')
19. split('e')

Solution

1. 21
2. Information age #2018
3. False
4. False
5. False
6. information age #2018
7. INFORMATION AGE #2018
8. False
9. 0
10. 6
11. 12
12. -1
13. False
14. False
15. False
16. 'l@n@f@o@r@m@a@t@i@o@n@ @a@g@e@ @#@2@0@1@8'
17. Inform@tion @ge #2018
18. ('Information ', 'age', ' #2018')
19. ['Information ag', ' #2018']

Q6. What is the difference between indexing and slicing?

Solution

Indexing is used to retrieve an element from an ordered data type like string, list, tuple etc. Slicing is used to retrieve a subset of values from an ordered data type. A slice of a string is basically its sub-string.

Q7. Give the difference between upper() and isupper() functions of string.

Solution

The upper() function returns the copy of the string with all the letters in uppercase. The isupper() function returns True if the string is in uppercase.

Example

```
>>> print(str3.upper())
```

ERATECH

```
>>> str5='tech era *2018*'
```

```
>>> print(str5.isupper())
```

False

Q8.Give the difference between index() and find() methods of string.

Solution

Both index() and find() methods are used to find the occurrence of specified value in a given string. The only difference is that the find() method returns -1 if the value is not found and index() method will raise an exception.

Q9.Give the difference between partition() and split() methods of string.

Solution

string.split() - It splits the whole string on all occurrences of the given argument

Example

```
"cat@bat@mat".split("@")
```

```
('cat','bat','mat')
```

string.partition() - Splits the string in three parts on the first occurrence of the given argument i.e. before the argument, the argument itself and the part after the argument

Example

```
"cat@bat@mat".partition('@')
```

```
('cat', '@', ' bat@mat ')
```

Q10.Give the difference between capitalize() and title() methods of string.

Solution

string.capitalize() - This function capitalizes the first letter of the string keeping all other letters in lowercase.

Example

```
"I am Happy".capitalize()
```

I am happy

string.title() - Capitalizes the first character of each word in a string

Example

```
"I am Happy".title()
```

I Am Happy

Practical / Programming questions

Q1. Write Python script to input a string and a character and count the number of occurrences of the character in the string.

Solution

```
str=input("Enter a string")
```

```
chr=input("Enter a character")
```

```
c=str.count(chr)
```

```
print("Total number of occurrences are:", c)
```

Q2. Write Python script to input a string and display it in reverse order.

Solution

```
str=input("Enter a string")
```

```
rev=str[::-1]
```

```
print("Reversed string is:", rev)
```

Q3. Write Python script to input a string and check whether it is a palindrome or not.

Solution

```
str=input("Enter a string")
```

```
rev=str[::-1]
```

```
if str==rev:
```

```
    print("Palindrome")
```

else:

```
    print("Not a palindrome")
```

Q4. Write Python script to input a string and count the number of words in it.

Solution

```
str=input("Enter a string")
```

```
c=str.count(" ")
```

```
print("No. of words are:",c+1)
```

Q5. Write Python script to input a string and count the number of words beginning with 'A' or 'a'.

Solution

```
str=input("Enter a string")
```

```
x=str.count(" A")
```

```
y=str.count(" a")
```

```
if str[0]=="a":
```

```
    y=y+1
```

```
if str[0]=="A":
```

```
    x=x+1
```

```
print("No. of words starting with A are:",x)
```

```
print("No. of words starting with a are:",y)
```

Q6. Write Python script to input a string and replace the first letter of every word to uppercase and then display it.

Solution

```
str=input("Enter a string")
```

```
x=str.title()
```

```
print(x)
```

Q7. Write Python script to input a string and replace all occurrences of the word 'the' with 'that'.

Solution

```
str=input("Enter a string")  
  
x=str.replace("the","that")  
  
print(x)
```

Q8. Write Python script to input a string and count and display the number of capital alphabets, small alphabets and numbers.

Solution

```
str=input("Enter a string")  
  
x,y,z=0,0,0  
  
for i in str:  
  
    if i.isupper():  
  
        x=x+1  
  
    elif i.islower():  
  
        y=y+1  
  
    elif i.isdigit():  
  
        z=z+1
```

```
print("Upper case: ", x)
```

```
print("Lower case: ", y)
```

```
print("Numbers: ", z)
```

GIVE OUTPUT OF FOLLOWING CODE:

```
s="Hello India 2022!"
```

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

```
m="""
```

```
for i in range(0, n):
```

```
if (s[i] >= 'a' and s[i] <= 'm'):
    m = m +s[i].upper()
elif (s[i] >= 'n' and s[i] <= 'z'):
    m = m +s[i-1]
elif (s[i].isupper()):
    m = m + s[i].lower()
else:
    m = m +'&'
print(m)
```