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Exercise 2

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NOTE: These exercises are ungraded.

Note: Advanced String Slicing

You've seen in lecture that you can slice a string with a call such as `s[i:j]`, which gives you a portion of string `s` from index `i` to index `j-1`. However this is not the only way to slice a string! If you omit the starting index, Python will assume that you wish to start your slice at index 0. If you omit the ending index, Python will assume you wish to end your slice at the end of the string. Check out this session with the Python shell:

```
>>> s = 'Python is Fun!'
>>> s[1:5]
'ytho'
>>> s[:5]
'Pytho'
>>> s[1:]
'ython is Fun!'
>>> s[:]
'Python is Fun!'
```

That last example is interesting! If you omit both the start and ending index, you get your original string!

There's one other cool thing you can do with string slicing. You can add a third parameter, `k`, like this: `s[i:j:k]`. This gives a slice of the string `s` from index `i` to index `j-1`, with step size `k`. Check out the following examples:

```
>>> s = 'Python is Fun!'
>>> s[1:12:2]
'yhni u'
>>> s[1:12:3]
'yoif'
>>> s[::2]
'Pto sFn'
```

The last example is similar to the example `s[:]`. With `s[::2]`, we're asking for the full string `s` (from index 0 through 13), with a step size of 2 - so we end up with every other character in `s`. Pretty cool!

Note: The Python 'in' operator

The operators `in` and `not in` test for collection membership (a 'collection' refers to a string, list, tuple or dictionary - don't worry, we will cover lists, tuples and dictionaries soon!). The expression

```
element in coll
```

evaluates to `True` if `element` is a member of the collection `coll`, and `False` otherwise.

The expression

```
element not in coll
```

evaluates to `True` if `element` is **not** a member of the collection `coll`, and `False` otherwise.

Note this returns the negation of `element in coll` - that is, the expression `element not in coll` is equivalent to the expression `not (element in coll)`.

Exercise 2 part 1

0 points possible (ungraded)

ESTIMATED TIME TO COMPLETE: 3 minutes

Note that you will have to answer all questions before you can click the Check button.

For each of the expressions below, specify its type and value. If it generates an error, select type 'NoneType' and write the word 'error' (note this is a word, not a string, no quotes) in the box for the value. While you could type these expressions into your IDE, we encourage you to answer them directly since this will help reinforce

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understand of basic Python expressions.

Assume we've made the following assignments:

```
> str1 = 'hello'
> str2 = ','
> str3 = 'world'
```

1. str1

string

hello

2. str1[0]

string

h

3. str1[1]

string

e

4. str1[-1]

string

o


5. len(str1)

int

5

Submit

You have used 1 of 9999 attempts

 Your answers were previously saved. Click 'Submit' to grade them.

Exercise 2 part 2

0 points possible (ungraded)

ESTIMATED TIME TO COMPLETE: 7 minutes

Note that you will have to answer all questions before you can click the Check button.

For each of the expressions below, specify its type and value. If it generates an error, select type 'NoneType' and write the word 'error' (note this is a word, not a string, no quotes) in the box for the value. While you could simply type these expressions into your IDE, we encourage you to answer them directly since this will help reinforce your understand of basic Python expressions.

Assume we've made the following assignments:

```
> str1 = 'hello'
```

```
> str2 = ','  
> str3 = 'world'
```

1. `str1[len(str1)]`



2. `str1 + str2 + str3`



3. `str1 + str2 + ' ' + str3`



4. `str3 * 3`



5. `'hello' == str1`



Submit

You have used 4 of 9999 attempts

Exercise 2 part 3

0 points possible (ungraded)

ESTIMATED TIME TO COMPLETE: 7 minutes

Note that you will have to answer all questions before you can click the Check button.

For each of the expressions below, specify its type and value. If it generates an error, select type 'NoneType' and write the word 'error' (note this is a word, not a string, no quotes) in the box for the value. While you could simply type these expressions into your IDE, we encourage you to answer them directly since this will help reinforce your understand of basic Python expressions.

Assume we've made the following assignments:

```
> str1 = 'hello'  
> str2 = ','  
> str3 = 'world'
```

1. `'HELLO' == str1`



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False ✓

2. 'a' in str3

boolean ✓

False ✓

3.

```
str4 = str1 + str3
'low' in str4
```

boolean ✓

True ✓

4. str3[1:3]

string ✓

or ✓

5. str3[:3]

string ✓

wor ✓

Submit

You have used 1 of 9999 attempts

Exercise 2 part 4

0 points possible (ungraded)

ESTIMATED TIME TO COMPLETE: 7 minutes

Note that you will have to answer all questions before you can click the Check button.

For each of the expressions below, specify its type and value. If it generates an error, select type 'NoneType' and write the word 'error' (note this is a word, not a string, no quotes) in the box for the value. While you could simply type these expressions into your IDE, we encourage you to answer them directly since this will help reinforce your understand of basic Python expressions.

Assume we've made the following assignments:

```
> str1 = 'hello'
> str2 = ','
> str3 = 'world'
> str4 = str1 + str3
```

1. str3[:-1]

string ✓

worl ✓

2. str1[1:]

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string ✓

ello ✓

3. str4[1:9]

string ✓

elloworl ✓

4. str4[1:9:2]

string ✓

elwr ✓

5. str4[::-1]

string ✓

dlrowolleh ✓

Submit You have used 2 of 9999 attempts

Exercise 2

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Topic: Lecture 2 / Exercise 2

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<div><div>?</div><div>it shows appears as a wrong answer to a right answer</div><div>Good morning, in exercise 2-part 4 number 4, 'helloworld'[1:9:2] it supposed to be 'elwr', right? but when i submitted it keeps giving...</div></div>	2
<div><div>?</div><div>I can't seem to submit exercise 1,2,4, does anyone know why?</div><div>I can't seem to submit exercise 1,2,4, does anyone know why?</div></div>	2
<div><div></div><div>I get why [::] was assigned. It's ungraded and you want people to google.</div><div>Should have communicated the intent to avoid creating needless frustration.</div></div>	4
<div><div>?</div><div>I don't understand str4[1:9:2]</div><div>so, I start analyzing 'helloworld'. Then, I remove the first and last letters, so I have 'elloworl', and then I'm lost because in 'ello' we rem...</div></div>	2
<div><div></div><div>I don't understand str4[1:9:2] and is not in lecture yet. What's the point?</div><div>I don't understand str4[1:9:2] and is not in lecture yet. What's the point?</div></div>	2
<div><div></div><div>If str5 = 'abc' then does str5[-2] mean length of 3 subtract 2?</div><div>If str5 = 'abc' then does str5[-2] mean length of 3 subtract 2 which equals index 1, thus str5[-2] = b as I confirmed, but this wasn't c...</div></div>	2
<div><div>?</div><div>Submit Button Disabled</div><div>Hi, I was going through this exercise and when ready to submit the answer find out that the buttons are disabled for Exercise 2 part ...</div></div>	7
<div><div></div><div>The answer of the first question</div><div>It should be 'hello' (with the quotes) no ? and print(str1) returns hello (without quotes).</div></div>	6
<div><div>?</div><div>Question 5</div><div>Why is the result of Q5 'dlrowolleh', should it be 'lrowolleh' as -1 drops the first letter and then inverse it? Just wondering here how is...</div></div>	10
<div><div>?</div><div>exercise 2</div><div>please wold someone explain to me what key size mean or does in slicing in this format[i:j:k] what is the function of k</div></div>	4
<div><div></div><div>Possible mistake in the lecture?</div></div>	

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