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Branch: master nyu_python_club / session_4_71615.ipynb

keriber 2 days ago Coding Snippets for week 4

1 contributor

499 lines (498 sloc) 9.548 kB Raw Blame History

List Review ¶

Previously, we wanted to isolate the first row of spreadsheet and multiply each number by 2. Type and press enter:

In [3]:
```
spreadsheet = [[1, 2, 3], [4,5,6],[7,8,9]]
first_row = spreadsheet[0]
answer = [first_row[0]*2, first_row[1]*2,first_row[2]*2]
```

In [4]:
```
answer
```

Out[4]: [2, 4, 6]

Index spreadsheet in order to create a list containing 2, 5, 8 so that when you return your variable it will look like [2,5,8]

In [5]:
```
answer2 = [spreadsheet[0][1], spreadsheet[1][1], spreadsheet[2][1]]
```

In [6]:
```
answer2
```

Out[6]: [2, 5, 8]

Example For Loop

In [7]:
```
for item in first_row:
    print(item * 2)
```

```
2
4
6
```

Storing the result of a for loop as a list

In [8]:
```
new_answer = []
for item in first_row:
    new_answer.append(item*2)
```

In [9]:
```
new_answer
```

Out[9]: [2, 4, 6]

In [10]:
```
new_answer2 = []
for item in first_row:
```

```
    new_answer2.append(item*2)
    print(item*2)
```

```
2
4
6
```

In [11]:
```
new_answer2
```

Out[11]:
```
[2, 4, 6]
```

Your Turn

In [12]:
```
for row in spreadsheet:
    print(row)
```

```
[1, 2, 3]
[4, 5, 6]
[7, 8, 9]
```

Now using the same loop instead of returning the whole row, return the second item in each row

In [13]:
```
for row in spreadsheet:
    print(row[1])
```

```
2
5
8
```

Example if statement

In [14]:
```
x = 'killer rabbit'
if x == 'roger':
    print('how is jessica?')
elif x == 'bugs':
    print('what is up doc?')
else:
    print( 'Run away! Run away!' )
```

```
Run away! Run away!
```

In [16]:
```
x = 'killer rabbit'
if x == 'roger':
    print('how is jessica?')
```

Notice the difference between the first block of code and the second block of code. Why does the second block of code yield no output?

Nested Statements: Bringing for and if together

In [18]:
```
example = 'noythp'

if example == 'p':
    print('This is the beginning of python')

if example[-1] == 'p':
    print('This is the beginning of python')

for letter in example:
    if letter == 'p':
        print('This is the beginning of the word')
```

```
This is the beginning of python
```

```
This is the beginning of the word
```

Another example of a nested statement

Here is an example where I use the for loop to issue a command on each item in example followed by an if loop to also execute a command using logic.

In [20]:
```
for letter in example:
    print(letter)
    if letter == 'p':
        print('This is the beginning of the word')
    else:
        print('?')
```

```
n
?
o
?
y
?
t
?
h
?
p
This is the beginning of the word
```

Write a python script using for/if statements

Goal: To pull out the gene name that has a p.value less than 0.05.

Break this down into a series of steps:

1. figure out whether you can use an if statement to evaluate true/false correctly.

i.e. I would index gene_table and store the row where the gene actually has a value less than 0.05 as a variable. I would then build an if statement to see if I could accurately assess whether I could isolate that value and return true if it is less than 0.05.

In [21]:
```
gene_table = [['gene', 'p.value'], ['a1bg', 0.25], ['bbx',0.06], ['creb1', 0.04]]
sample_row = gene_table[3]
if sample_row[-1]<0.05:
    print('yes')
else:
    print('no')
```

```
yes
```

1. put your if statement into a for loop that iterates through all of the rows in the table
2. change your if statement so that if it evaluates true, than it prints the gene name. If false, it returns nothing

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