

Michael Bullock

Python on AWS

Subject: Loops

Lab cake 1: Looping through Athletes @channel

Objective: Practice using loops to iterate through a list and display information.

Task: Write a Python program that uses a list of four U.S. women athletes who have competed in the 400 meters at the Olympics. Your program should do the following:

1. Create a list called `athletes` with the following names:
 - o Allyson Felix
 - o Sanya Richards-Ross
 - o Shauna Miller-Uibo
 - o Phyllis Francis
2. Use a `for` loop to display each athlete's name along with the lap number they completed. The output should be in the following format:

```
Lap 1: Allyson Felix has completed their lap!
Lap 2: Sanya Richards-Ross has completed their lap!
Lap 3: Shauna Miller-Uibo has completed their lap!
Lap 4: Phyllis Francis has completed their lap!
```

Requirements:

- Do not use the `enumerate()` function.
- Use a counter variable to keep track of the lap number.

Bonus Challenge:

- Modify your code to display a message at the end that says: "All athletes have completed their laps!"

Submission

Please submit your code in a file named `athlete_lap_assignment.py` and upload it to github. Make sure to test your code to ensure it produces the correct output.

```
athletes_lap_assignment.py X
Loops > For_loop > athletes_lap_assignment.py
1  '''
2  Michael Bullock
3  Python on AWS
4  Description: Write a Python program that uses a list of four U.S. women athletes
5  who have competed in the 400 meters at the Olympics.
6  Your program should do the following:'''
7
8  # Create a list of athletes with the following respective names
9  athletes = ["Allyson Felix", "Sanya Richards-Ross", "Shaune Miller-Uibo", "Phyllis Francis"]
10
11 # Create a for loop to display each athlete's name along with the lap number the completed.
12 for index in range(len(athletes)):
13     print(f"Lap {index + 1}: {athletes[index]} has completed their lap!")
14
15 # Print status message outside of for loop
16 print("All athletes have completed their laps!")

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
1: bash

Michael's-iMac:For_loop michaelbullock$ python3 athletes_lap_assignment.py
Lap 1: Allyson Felix has completed their lap!
Lap 2: Sanya Richards-Ross has completed their lap!
Lap 3: Shaune Miller-Uibo has completed their lap!
Lap 4: Phyllis Francis has completed their lap!
All athletes have completed their laps!
```

Lab cake 2: Reversing a List @channel

Objective: Practice reversing a list and transferring its elements into a new list using loops.

Task: Write a Python program that works with the list called `laura_things` containing the following items:

- "sewing machine"
- "scissor"
- "cutting mat"
- "television"

Your program should do the following:

1. Create a list called `laura_things` with the items listed above.
2. Reverse the order of the items in `laura_things`.
3. Transfer each item from the reversed list into a new list called `reversed_things`.
4. Print out the new list `reversed_things` to show that it contains the items in reverse order.

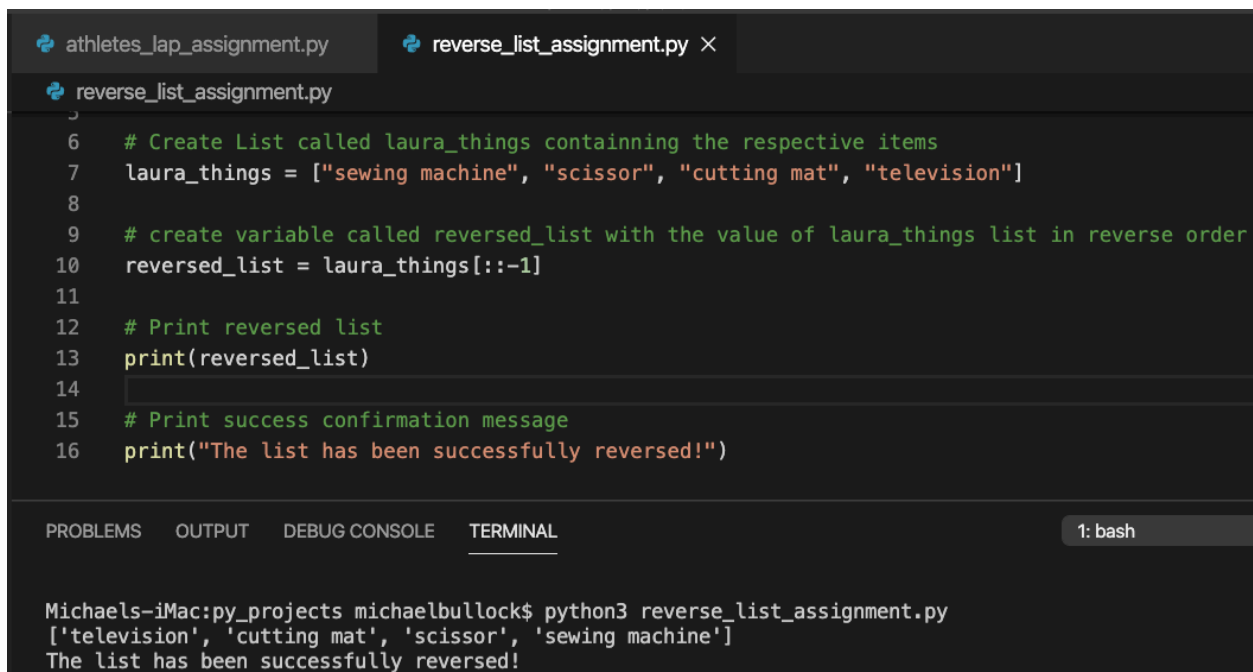
Requirements:

- You must reverse the list using slicing or a loop (do not use Python's built-in reverse methods like `reverse()`).
- The final output should look like this:
- ['television', 'cutting mat', 'scissor', 'sewing machine']

Bonus Challenge:

- After reversing the list and creating `reversed_things`, print a message that says: "The list has been successfully reversed!"

Submission



```
athletes_lap_assignment.py  reverse_list_assignment.py X
reverse_list_assignment.py
5
6  # Create List called laura_things containning the respective items
7  laura_things = ["sewing machine", "scissor", "cutting mat", "television"]
8
9  # create variable called reversed_list with the value of laura_things list in reverse order
10 reversed_list = laura_things[::-1]
11
12 # Print reversed list
13 print(reversed_list)
14
15 # Print success confirmation message
16 print("The list has been successfully reversed!")

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  1: bash

Michaels-iMac:py_projects michaelbullock$ python3 reverse_list_assignment.py
['television', 'cutting mat', 'scissor', 'sewing machine']
The list has been successfully reversed!
```