

Practice Quiz: For Loops

TOTAL POINTS 5

1. How are while loops and for loops different in Python?

1 / 1 point

- ☐ While loops can be used with all data types, for loops can only be used with numbers.
- ☐ For loops can be nested, but while loops can't.
- ☒ While loops iterate while a condition is true, for loops iterate through a sequence of elements.
- ☐ While loops can be interrupted using break, for loops using continue.

**Correct**

You got it! We can use while loops when we want our code to execute repeatedly while a condition is true, and for loops when we want to execute a block of code for each element of a sequence.

2. Fill in the blanks to make the factorial function return the factorial of n. Then, print the first 10 factorials (from 0 to 9) with the corresponding number. Remember that the factorial of a number is defined as the product of an integer and all integers before it. For example, the factorial of five (5!) is equal to $1*2*3*4*5=120$. Also recall that the factorial of zero (0!) is equal to 1.

1 / 1 point

```
1 def factorial(n):
2     result = 1
3     for x in range(1,n):
4         result = result * x
5     return result
6
7 for n in range(0,10):
8     print(n, factorial(n+1))
```

[Run](#)[Reset](#)

```
0 1
1 1
2 2
3 6
4 24
5 120
6 720
7 5040
8 40320
9 362880
```

Correct



Great work! The pieces of code you're tackling keep getting more complex, you're doing a great job!

3. Write a script that prints the first 10 cube numbers (x^3), starting with $x=1$ and ending with $x=10$.

1 / 1 point

```
1 for x in range(1,11):  
2     print(x**3)
```

Run

Reset

```
1  
8  
27  
64  
125  
216  
343  
512  
729  
1000
```



Correct

You nailed it! You got the code to print the first 10 cubes.

4. Write a script that prints the multiples of 7 between 0 and 100. Print one multiple per line and avoid printing any numbers that aren't multiples of 7. Remember that 0 is also a multiple of 7.

1 / 1 point

```
1 for x in range(0,100,7):  
2     print(x)
```

Run

Reset

0
7
14
21
28
35
42
49
56
63
70
77
84
91
98



Correct

Awesome! You're getting Python to do all the work for you.

5. The retry function tries to execute an operation that might fail, it retries the operation for a number of attempts. Currently the code will keep executing the function even if it succeeds. Fill in the blank so the code stops trying after the operation succeeded. **1 / 1 point**

```
1 def retry(operation, attempts):
2     for n in range(attempts):
3         if operation():
4             print("Attempt " + str(n) + " succeeded")
5             break
6         else:
7             print("Attempt " + str(n) + " failed")
8
9     retry(create_user, 3)
10    retry(stop_service, 5)
```

Run

Reset

Attempt 0 failed
Attempt 1 failed
Attempt 2 succeeded
Attempt 0 succeeded
Attempt 0 failed
Attempt 1 failed
Attempt 2 failed
Attempt 3 succeeded
None



Correct

Well done, you! You've fixed the code to stop executing once the function is successful.