Practice Quiz: For Loops

TOTAL POINTS 5

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

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 point

```
def factorial(n):
    result = 1
    for x in range(1,n):
        result = result * x
    return result

for n in range(0,10):
    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
```

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

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

Run
Reset

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

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 point

```
for i in range(100):
    if i % 7 == 0:
        print(i)
```

Run
Reset

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

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 point

```python
def retry(operation, attempts):
    for n in range(attempts):
        if operation():
            print("Attempt " + str(n) + " succeeded")
            break
        else:
            print("Attempt " + str(n) + " failed")

retry(create_user, 3)
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
```

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