

Worksheet 07: Python For-Loop with Range

Name: _____ Date: _____

Instructions

- Answer in the blanks.
 - For “write code” questions, write valid Python code.
 - For “what does it print” questions, write the exact output.
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Part A — `range` Basics

1) What numbers does `range(stop)` make?

Write the numbers in `range(5)` :

`range(5)` → _____

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2) What does this print?

```
for i in range(4):  
    print(i)
```

Output:

////////////////////////////////////

3) Fill in the blank (`range(stop)`)

Make this code print the numbers **0 to 9** (each on its own line).

```
for i in range(____):  
    print(i)
```

4) What numbers does `range(start, stop)` make?

Write the numbers in `range(3, 8)` :

`range(3, 8)` → _____

5) Fill in the blanks (`range(start, stop)`)

Make this code print **1, 2, 3, 4, 5**.

```
for i in range(____, ____):  
    print(i)
```

Hint: `stop` is not included.

Part B — Steps (including negative steps)

6) What does this print?

```
for i in range(0, 11, 2):  
    print(i)
```

Output:

7) Fill in the blanks (`step = 3`)

Make this code print: 2, 5, 8, 11.

```
for x in range(____, ____, ____):  
    print(x)
```

8) Count down with a negative step

Make this code print: 10, 8, 6, 4, 2.

```
for n in range(____, ____, ____):  
    print(n)
```

9) What does this print?

```
for k in range(1, 12, 4):  
    print(k)
```

Output:

10) True or False

Write **True** or **False**.

1. `range(1, 5)` includes the number `5` . _____
2. `range(1, 6)` includes the number `5` . _____
3. A `range` can use a negative step to count down. _____
4. `step` can be `0` . _____

Part C – Accumulators and Sums

11) Accumulator: what is the final value?

```
total = 5
total = total + 2
total = total + 10
print(total)
```

Output:

12) Fill in the blank (sum from 1 to 10)

Fill in the blank so the code computes:

$$1 + 2 + 3 + \dots + 10$$

```
total = 0
for i in range(1, ____):
    total = total + i
print(total)
```

13) Write code (sum from 5 to 15)

Write code to compute:

$$5 + 6 + 7 + \dots + 15$$

14) Write code (sum of even numbers from 2 to 20)

Write code to compute:

$$2 + 4 + 6 + \dots + 20$$



15) Challenge: sum of squares

Write code to compute:

$$1 \times 1 + 2 \times 2 + 3 \times 3 + 4 \times 4 + 5 \times 5$$