

Solution 07: Python For-Loop with Range

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

```
range(5) → 0, 1, 2, 3, 4
```

2) What does this print?

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

Output:

```
0  
1  
2  
3
```

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

One correct answer:

```
for i in range(10):  
    print(i)
```

(That prints 0 through 9.)

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

```
range(3, 8) → 3, 4, 5, 6, 7
```

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

One correct answer:

```
for i in range(1, 6):
    print(i)
```

`stop` is 6 because 6 is not included, but 5 is.

6) What does this print?

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

Output:

```
0
2
4
6
8
10
```

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

One correct answer:

```
for x in range(2, 12, 3):
    print(x)
```

Because it starts at 2, jumps by 3, and stops before 12.

8) Count down with a negative step

One correct answer:

```
for n in range(10, 1, -2):
    print(n)
```

(Stop is 1 so that 2 is still included, but 0 is not reached.)

9) What does this print?

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

Output:

```
1
5
9
```

10) True or False

1. `range(1, 5)` includes the number 5 . **False**
2. `range(1, 6)` includes the number 5 . **True**
3. A `range` can use a negative step to count down. **True**
4. `step` can be 0 . **False** (that is an error)

11) Accumulator: what is the final value?

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

Output:

```
17
```

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

```
total = 0
for i in range(1, 11):
    total = total + i
print(total)
```

Output:

```
55
```

13) Write code (sum from 5 to 15)

One correct answer:

```
total = 0
for i in range(5, 16):
    total = total + i
print(total)
```

Output:

```
110
```

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

One correct answer:

```
total = 0
for i in range(2, 21, 2):
    total = total + i
print(total)
```

Output:

```
110
```

15) Challenge: sum of squares

One correct answer:

```
total = 0
for i in range(1, 6):
    total = total + i * i
print(total)
```

Output:

```
55
```