

# Solution 07: Python For-Loop with Range

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

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`range(5)` → 0, 1, 2, 3, 4

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## 2) What does this print?

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

Output:

```
0  
1  
2  
3
```

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

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One correct answer:

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

(That prints 0 through 9.)

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

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`range(3, 8)` → 3, 4, 5, 6, 7

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

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One correct answer:

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

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

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## 6) What does this print?

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

Output:

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

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

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One correct answer:

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

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

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## 8) Count down with a negative step

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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.)

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## 9) What does this print?

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

Output:

```
1  
5  
9
```

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## 10) True or False

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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?

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

Output:

```
17
```

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

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

Output:

55

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## 13) Write code (sum from 5 to 15)

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One correct answer:

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

Output:

110

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

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One correct answer:

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

Output:

110

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## 15) Challenge: sum of squares

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One correct answer:

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

Output:

```
55
```