

Quiz 01-08: Python Basics, If-Statement, and For-Loop

1) Mixed types inside a list

```
data = ["7", 7, 7.0]
```

- `data[0]` is a(n) `str`
 - `data[1]` is a(n) `int`
 - `data[2]` is a(n) `float`
-

2) Index practice

```
cities = ["Paris", "Tokyo", "Lima", "Cairo", "Seoul"]
```

- `cities[1]` is `Tokyo`
 - `cities[4]` is `Seoul`
 - `cities[0]` is `Paris`
-

3) Update + append

```
nums = [3, 6, 9]  
  
nums[0] = 4  
nums.append(12)  
  
print(nums)  
print(nums[1])
```

Output:

```
[4, 6, 9, 12]  
6
```

4) Append, pop, and store the removed item

```
items = ["hat", "bag"]
items.append("shoes")
removed = items.pop()

print(removed)
print(items)
```

Output:

```
shoes
['hat', 'bag']
```

5) Mini task: to-do edits

One correct answer:

```
todo = ["math", "music", "read"]
todo[1] = "piano"
todo.append("game")
todo.pop()
print(todo)
```

Output:

```
['math', 'piano', 'read']
```

6) Traverse and print a message

```
names = ["Ava", "Ben", "Cody"]

for name in names:
    print("Hi, ", name + "!")
```

Output:

```
Hi, Ava!
Hi, Ben!
Hi, Cody!
```

7) Sum only the numbers bigger than 5

```
numbers = [2, 8, 5, 10, 1]

total = 0
for x in numbers:
    if x > 5:
        total = total + x

print(total)
```

Output:

```
18
```

8) “Last digits” list

Full correct code:

```
nums = [47, 105, 62, 90]

last_digits = []
for n in nums:
    last_digits.append(n % 10)

print(last_digits)
```

Output:

```
[7, 5, 2, 0]
```

9) Count how many are even

```
nums = [1, 4, 6, 9, 12]

count_even = 0
for x in nums:
    if x % 2 == 0:
        count_even = count_even + 1

print(count_even)
```

Output:

```
3
```

10) Filter with **and**

Full correct code:

```
nums = [3, 10, 12, 7, 16, 9]

good = []
for x in nums:
    if x % 2 == 0 and x >= 10:
        good.append(x)

print(good)
```

Output:

```
[10, 12, 16]
```

11) Max after a change

```
scores = [70, 85, 90, 60]
scores[3] = 95

m = scores[0]
for x in scores:
    if x > m:
        m = x

print(m)
```

Output:

```
95
```

12) Build a list of first letters

Full correct code:

```
animals = ["tiger", "bear", "owl"]

first_letters = []
for a in animals:
    first_letters.append(a[0])

print(first_letters)
```

Output:

```
['t', 'b', 'o']
```

13) What numbers does this range make?

```
range(2, 14, 4) → [2, 6, 10]
```

14) Count down by 3

One correct answer:

```
for x in range(15, 0, -3):
    print(x)
```

Output:

```
15
12
9
6
3
```

15) Traverse a list

Output:

```
0 red
1 green
2 blue
```

16) Build squares using range + append

Fill in:

- `n * n` (or `n ** 2`)

Full correct code:

```
squares = []

for n in range(1, 6):
    squares.append(n * n)

print(squares)
```

Output:

```
[1, 4, 9, 16, 25]
```

17) Double every number

```
nums = [1, 3, 5, 7]

for i in range(len(nums)):
    nums[i] = nums[i] * 2

print(nums)
```

Output:

```
[2, 6, 10, 14]
```

18) Average and decision

One correct answer:

```
scores = [80, 60, 70, 90]

total = 0
for x in scores:
    total = total + x

avg = total / len(scores)
print(avg)

if avg >= 70:
    print("Pass")
else:
    print("Try again")
```

Output:

```
75.0
Pass
```

19) Build a sentence from a word list

One correct answer:

```
words = ["I", "love", "Python"]

sentence = ""
for i in range(len(words)):
    sentence = sentence + words[i]
    if i != len(words) - 1:
        sentence = sentence + " "

print(sentence)
```

Output:

I love Python

20) Debug: indentation + logic (print only evens)

Corrected code:

```
nums = [2, 3, 4, 5, 6]

for x in nums:
    if x % 2 == 0:
        print(x)
```

Output:

```
2
4
6
```