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

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.
- Do **not** use functions (no `def`). Use variables, `for`, `if`, and `print(...)`.

Part A — Lists: Create, Index, Update, Append, Pop

1) Mixed types inside a list

Look at the list:

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

Fill in the blanks:

- type(`data[0]`) is _____
- type(`data[1]`) is _____
- type(`data[2]`) is _____

---

2) Index practice

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

Fill in the blanks:

- `cities[1]` is _____
- `cities[4]` is _____
- `cities[0]` is _____

3) Update + append

What is the output?

```
nums = [3, 6, 9]

nums[0] = 4
nums.append(12)

print(nums)
print(nums[1])
```

Output:

```

```

4) Append, pop, and store the removed item

What is the output?

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

print(removed)
print(items)
```

Output:

```

```

5) Mini task (write code)

Write code that does all steps in order:

1. Create `todo = ["math", "music", "read"]`
2. Change `"music"` to `"piano"`
3. Append `"game"`
4. Pop the last item
5. Print `todo`

Part B — For-Loop with List: Traverse, Accumulate, Build New Lists

6) Traverse and print a message (strings + loop)

What does this print?

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

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

Output:

7) Sum only the numbers bigger than 5

What does this print?

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

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

print(total)
```

Output:

```

```

8) “Last digits” list

Complete the code so it builds a new list of the **last digits**.

Example: `47` → last digit is `7`.

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

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

print(last_digits)
```

Expected output:

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

9) Count how many are even (accumulator + `%`)

What is the output?

```
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:

```

```

10) Filter with `and`

Build a new list `good` that keeps numbers that are:

- even, **and**
- at least 10

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

good = []
for x in nums:
    if ____________________ and ____________________:
        good.append(x)

print(good)
```

Expected output:

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

11) Max after a change

What does this print?

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

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

print(m)
```

Output:

```

```

12) Build a list of first letters

Complete the code so it prints the list of first letters.

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

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

print(first_letters)
```

Expected output:

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

Part C — For-Loop with Range: Counting, Steps, Indices

13) What numbers does this range make?

Write the numbers in `range(2, 14, 4)`:

`range(2, 14, 4)` → _____

14) Count down by 3 (fill in the blanks)

Make the code print: **15, 12, 9, 6, 3**

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

15) Traverse a list

What is the output?

```
colors = ["red", "green", "blue"]

n = len(colors)

for i in range(n):
    print(i, colors[i])
```

Output:

```

```

16) Build squares using range + append

Complete the code so it builds `[1, 4, 9, 16, 25]`.

```
squares = []

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

print(squares)
```

Part D — Mixed Problems

17) Double every number

What is the final list printed?

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

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

print(nums)
```

Output:

```

```

18) Average and decision

Write code that:

1) computes the average score (as a float)
2) prints `"Pass"` if the average is at least 70, otherwise prints `"Try again"`

Use:

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

Your code:

```

```

19) Build a sentence from a word list

Write code to print exactly: `I love Python`

Hint: Use `range(...)` and an `if` to decide when to add a space.

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

# complete the code:
```

20) Debug: indentation + logic

This code is supposed to print only the **even** numbers in the list, but it has a problem. Fix it.

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

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

Write the corrected code:

```

```