Most Common Python Practical Questions (Client Interview)

1. Reverse a String

```
def reverse_string(s: str) -> str:
    return s[::-1]
```

2. Find the Fibonacci Series up to N

```
def fibonacci(n: int):
    a, b = 0, 1
    for _ in range(n):
        print(a, end=' ')
        a, b = b, a + b
```

3. Find the Factorial of a Number

```
def factorial(n: int) -> int:
    return 1 if n == 0 else n * factorial(n - 1)
```

4. Check if a String is a Palindrome

```
def is_palindrome(s: str) -> bool:
    return s == s[::-1]
```

5. Find the Largest Element in a List

```
nums = [3, 8, 1, 10, 5]
print(max(nums))
```

6. Remove Duplicates from a List

```
nums = [1, 2, 2, 3, 4, 4, 5]
unique = list(set(nums))
```

7. Find the Second Largest Number in a List

```
nums = [10, 20, 4, 45, 99]
nums = list(set(nums))
nums.sort()
print(nums[-2])
```

8. Count Occurrences of Each Character in a String

```
from collections import Counter
s = 'hello'
print(Counter(s))
```

9. Find Prime Numbers in a Range

```
def is_prime(n: int) -> bool:
    if n < 2: return False
    for i in range(2, int(n**0.5)+1):
        if n % i == 0:
            return False
    return True
```

10. Reverse a List Without Using reverse()

```
nums = [1, 2, 3, 4]
reversed_list = nums[::-1]
```

11. Find the Missing Number in a Sequence

```
nums = [1, 2, 4, 5]
missing = set(range(1, 6)) - set(nums)
print(missing)
```

12. Check if Two Strings are Anagrams

```
def is_anagram(s1: str, s2: str) -> bool:
    return sorted(s1) == sorted(s2)
```

13. Flatten a Nested List

```
nested = [[1, 2], [3, 4], [5]]
flat = [x for sub in nested for x in sub]
```

14. Merge Two Dictionaries

```
dict1 = {'a': 1, 'b': 2}
dict2 = {'c': 3}
merged = {**dict1, **dict2}
```

15. Find the Frequency of Words in a Sentence

```
sentence = 'the cat and the hat'
words = sentence.split()
print(Counter(words))
```