**Python String Logic Interview Questions with Code and Explanation**

### 1. Remove All Digits from a String

**Input:** “abc123def45” **Output:** “abcdef”

def remove\_digits(s):  
 result = ""  
 for char in s:  
 if not char.isdigit():  
 result += char  
 return result

### 2. Check if Two Strings are Anagrams

**Input:** “listen”, “silent” **Output:** True

def is\_anagram(str1, str2):  
 return sorted(str1) == sorted(str2)

### 3. First Non-Repeating Character

**Input:** “aabbcddfe” **Output:** “c”

def first\_non\_repeating(s):  
 for char in s:  
 if s.count(char) == 1:  
 return char  
 return None

### 4. Count Words without using split()

**Input:** “hello world python” **Output:** 3

def count\_words(s):  
 count = 0  
 in\_word = False  
 for char in s:  
 if char != ' ' and not in\_word:  
 count += 1  
 in\_word = True  
 elif char == ' ':  
 in\_word = False  
 return count

### 5. Check if String has Only Digits

**Input:** “12345” -> True, “12a45” -> False

def is\_digit\_only(s):  
 for char in s:  
 if char < '0' or char > '9':  
 return False  
 return True

### 6. Capitalize First Letter of Each Word

**Input:** “hello world” **Output:** “Hello World”

def capitalize\_words(s):  
 result = ""  
 capitalize\_next = True  
 for char in s:  
 if capitalize\_next and char != " ":  
 result += char.upper()  
 capitalize\_next = False  
 else:  
 result += char  
 if char == " ":  
 capitalize\_next = True  
 return result

### 7. Reverse Words in a Sentence

**Input:** “Hello World” **Output:** “World Hello”

def reverse\_words(s):  
 words = s.split()  
 reversed\_words = words[::-1]  
 return " ".join(reversed\_words)

### 8. Count Uppercase and Lowercase Letters

**Input:** “HarishKumarKM” **Output:** Uppercase: 3, Lowercase: 9

def count\_case(s):  
 upper = lower = 0  
 for char in s:  
 if char.isupper():  
 upper += 1  
 elif char.islower():  
 lower += 1  
 return upper, lower

### 9. Print All Substrings of a String

**Input:** “abc” **Output:** a, ab, abc, b, bc, c

def print\_substrings(s):  
 n = len(s)  
 for i in range(n):  
 for j in range(i+1, n+1):  
 print(s[i:j])

### 10. Compress a String (Run-Length Encoding)

**Input:** “aaabbccaa” **Output:** “a3b2c2a2”

def compress\_string(s):  
 result = ""  
 i = 0  
 while i < len(s):  
 count = 1  
 while i + 1 < len(s) and s[i] == s[i+1]:  
 i += 1  
 count += 1  
 result += s[i] + str(count)  
 i += 1  
 return result