**Step 1: Import the re Module**

import re

* The re module in Python is used for **regular expression (regex) operations**.
* It helps in **pattern matching and text manipulation**.

**Step 2: Define the Input String**

name = "Python is 1"

* The variable name contains the string **"Python is 1"**.
* The goal is to **count digits, letters, and spaces** separately.

**Step 3: Count the Digits**

digitcount = re.sub("[^0-9]", "", name)

* **re.sub(pattern, replacement, string)** is used to replace all occurrences of a pattern in a string.
* **[^0-9]** means **"match everything except digits (0-9)"**.
* This **removes all non-digit characters**, leaving only the digits.
* The remaining string (digits only) is stored in digitcount.

**Example Output for digitcount**:

"1" (since '1' is the only digit in "Python is 1")

**Step 4: Count the Letters**

lettercount = re.sub("[^a-zA-Z]", "", name)

* **[^a-zA-Z]** means **"match everything except letters (A-Z, a-z)"**.
* This removes all non-letter characters (digits, spaces, special characters).
* The remaining string (letters only) is stored in lettercount.

**Example Output for lettercount**:

"Pythonis" (since only letters are retained)

**Step 5: Count the Spaces**

spacecount = re.findall("[ \s]", name)

* **re.findall(pattern, string)** returns **all matches** of a pattern in a list.
* **[ \s]** looks for **spaces** (" ") or any whitespace character (\s).
* The result is a **list of spaces** found in the string.

**Example Output for spacecount**:

[" ", " "] (since there are two spaces in "Python is 1")

**Step 6: Print the Results**

print(f"Total digit count is {len(digitcount)}")

print(f"Total letter count is {len(lettercount)}")

print(f"Total space count is {len(spacecount)}")

* len(digitcount) gives the **count of digits**.
* len(lettercount) gives the **count of letters**.
* len(spacecount) gives the **count of spaces**.

**Final Output**

Total digit count is 1

Total letter count is 8

Total space count is 2

**Execution Flow**

1. **Input string** → "Python is 1"
2. **Extract digits** → "1" → Count = 1
3. **Extract letters** → "Pythonis" → Count = 8
4. **Extract spaces** → [" ", " "] → Count = 2
5. **Print results**

**Key Takeaways**

✔ **Regular Expressions (re)** are powerful for **pattern-based text manipulation**.  
✔ **[^0-9] removes all non-digits**, helping count digits.  
✔ **[^a-zA-Z] removes all non-letters**, helping count letters.  
✔ **\s finds spaces**, helping count spaces.  
✔ **This method works for any text input**, making it useful for text analysis.