

>>>> Day 3:

Day 3: Python Learning

Topic: Slicing in Python

Definition:

Slicing is used to extract a portion (part) of a sequence like a string, list, or tuple. It allows you to specify **where to start**, **where to stop**, and **how to step** through elements.

Syntax:

```
sequence[start:end:step]
```

Explanation:

- **start** → index where slicing begins (included)
- **end** → index where slicing stops (excluded)
- **step** → interval or direction (default is 1)

Examples:

```
text = "Python"
```

```
print(text[0:4])    # Output: Pyth
print(text[2:])     # Output: thon
print(text[:4])     # Output: Pyth
print(text[::2])    # Output: Pto
print(text[::-1])   # Output: nohtyP (reverses the string)
```

- ♦ `[::-1]` → commonly used to **reverse** strings or lists.
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>> AND also along with this program i learned some new functions:

1. lower(): used to make string in lowercase.
2. isalpha(): used to check the character value is alphabet not any other character.

Program: Count Vowels and Consonants in a String

Code:

```
# Take user input
text = input("Enter a string: ")

# Convert to lowercase
text = text.lower()

# Initialize counters
vowels = 0
consonants = 0

# Define vowels
vowel_set = "aeiou"

# Loop through each character
for char in text:
    if char.isalpha(): # Only consider alphabets
        if char in vowel_set:
            vowels += 1
        else:
            consonants += 1

# Display result
print("Number of vowels:", vowels)
print("Number of consonants:", consonants)
```

Example Output:

```
Enter a string: Python Programming
Number of vowels: 4
Number of consonants: 13
```