Assignment 4

September 3, 2025

0.1 1. Write a Python program to:

0.2 o Calculate the length of a string.

[1]:
```
str="Ashutosh Dash"
print(len(str))
```

```
13
```

0.3 o Count the frequency of each character in a string.

[5]:
```
str="Ashutosh Dash"
count=0
for x in (str):
    if 'h'== x:
        count+=1
print("h",count,"times found.")
```

```
h 3 times found.
```

0.4 2. Write a program to check if a given string is a palindrome (reads the same backward as forward).

[6]:
```
str="madam"
rev=str[::-1]
if str==rev:
    print("palindrome")
else:
    print("not palindrome")
```

```
palindrome
```

0.5 3. Create a program to:

0.6 o Convert a string to uppercase and lowercase.

[8]:
```
s1='Ashutosh Dash'
print(s1.upper())
print(s1.lower())
```

```
ASHUTOSH DASH
ashutosh dash
```

0.7 o Replace all occurrences of a specific character in a string with another character.

[2]:
```
s1="qweqwe"
s2=s1.replace('q','p')
print(s1)
print(s2)
```

```
qweqwe
pwepwe
```

0.8 4. Write a Python script to:

0.9 o Reverse a string without using slicing.

[10]:
```
s1="Ashutosh Dash"
s2=''.join(reversed(s1))
print(s2)
```

```
hsaD hsotuhsA
```

0.10 o Extract only the vowels from a given string.

[12]:
```
s1="Ashutosh Dash"
vowel="aeiouAEIOU"
for i in s1:
    for j in vowel:
        if i==j:
            print(i,end=" ")
```

```
A u o a
```

0.11 5. Write a program to find the number of words in a string and display the longest word.

[18]:
```
s1 = "Ashutosh Dash"
word = s1.split()
print(word)
words = len(word)
print("Number of words:", words)
longest = word[0]
for i in word:
    if len(i) > len(longest):
        longest = i
print("Longest word:", longest)
```

```
['Ashutosh', 'Dash']
Number of words: 2
Longest word: Ashutosh
```

0.12 6. Write a Python program to:

0.13 o Remove all duplicate characters from a string.

[19]:
```
s = "Ashutosh Dash"
result = ""

for char in s:
    if char not in result:
        result += char

print("Original string:", s)
print("String after removing duplicates:", result)
```

```
Original string: Ashutosh Dash
String after removing duplicates: Ashuto Da
```

0.14 7. Create a program to:

0.15 o Count the number of occurrences of a substring in a string.

[4]:
```
main_string = input("Enter the main string: ")
sub_string = input("Enter the substring to count: ")
count = main_string.count(sub_string)
print(sub_string,"occurs",count,"times in the string.")
```

```
Enter the main string: Ashutosh
Enter the substring to count: Ashu
Ashu occurs 1 times in the string.
```

0.16 o Find the first and last occurrence of a specific character in a string.

[5]:
```
main_string = input("Enter the main string: ")
char = input("Enter the character to find: ")
first_index = main_string.find(char)
last_index = main_string.rfind(char)
print("First occurance",first_index)
print("Last occurance",last_index)
```

```
Enter the main string: Ashutosh
Enter the character to find: h
First occurance 2
Last occurance 7
```

0.17 8. Write a program to:

0.18 o Sort the characters of a string alphabetically.

[8]:
```
s1 = "Ashutosh"
s2 = "".join(sorted(s1))
print(s2)
```

```
Ahhosstu
```

0.19 o Swap the first and last characters of a string.

[10]:
```
s1 = input("Enter a string ")
swapped = s1[-1] + s1[1:-1] + s1[0]
print(swapped)
```

```
Enter a string Ashutosh
hshutosA
```

0.20 9. Write a program to:

0.21 o Check if a string contains any digits.

[12]:
```
s1 = "qwerty12"
flag=False
for char in s1:
    if char.isdigit():
        flag=True
if(flag):
    print("The string contains digits.")
else:
    print("The string doesn't contain any digit.")
```

```
The string contains digits.
```

0.22 o Extract all numeric characters from a string and calculate their sum.

[15]:
```
s1 = "qwerty12345"
add = 0
for char in s1:
    if char.isdigit():
        add+=int(char)
print("The sum is",add)
```

```
The sum is 15
```

0.23 10. Create a program to capitalize the first letter of each word in a string (like a title).

[17]:
```
s1 = "ashutosh dash"
print(s1.title())
```

```
Ashutosh Dash
```

0.24 11. Write a Python program to:

0.25 o Remove all special characters and numbers from a string, leaving only alphabets.

[21]:
```
s1 = input("Enter a string: ")
result = ""
for i in s1:
    if i.isalpha():
        result+=i
print(result)
```

```
Enter a string: @#A;;s?h!!u123
Ashu
```

0.26 o Find all unique characters in a string.

[24]:
```
s1 = input("Enter a string: ")
unique = set(s1)
for char in unique:
    print(char)
```

```
Enter a string: Ashutosh Dash
s

t
h
D
o
A
a
u
```

0.27 12. Create a program to:

0.28 o Split a string into a list of words and join it back into a single string with a specific delimiter.

[25]:
```
s1 = "The quick brown fox jumps over a lazy dog"
words = s1.split()
delimeter = "-"
```

```
string = delimeter.join(words)
print(string)
```

```
The-quick-brown-fox-jumps-over-a-lazy-dog
```

0.29 o Check if a string starts and ends with the same character.

[1]:
```
s1 = input("Enter a string: ")
if s1[0].lower() == s1[-1].lower():
    print("Starts and ends with same character")
else:
    print("Doesn't start and end with same character")
```

```
Enter a string: Madam
Starts and ends with same character
```

[ ]:
```

```