

In this module learning outcomes are:

1. Python Program to Check if a String is a Palindrome or Not.
2. Python Program to Calculate the Number of Upper Case Letters and Lower Case Letters in a String.
3. Python Program to Convert the entered string into upper case as well as lower case.

1. Python Program to Check if a String is a Palindrome or Not.

This is a Python Program to check if a string is a palindrome or not.

Problem Description

The program takes a string and checks if a string is a palindrome or not.

Problem Solution

1. Take a string from the user and store it in a variable.
2. Reverse the string using string slicing and compare it back to the original string.
3. Print the final result
4. Exit.

Program/Source Code

Here is source code of the Python Program to check if a string is a palindrome or not. The program output is also shown below.

#Program to Check if a String is a Palindrome or Not

```
string=input("Enter string:")
if(string==string[::-1]):
    print("The string is a palindrome")
else:
    print("The string isn't a palindrome")
```

Program Explanation

1. User must enter a string and store it in a variable.
2. The string is reversed using string slicing and it is compared back to the non-reversed string.
3. If they both are equal, the strings are palindrome.
4. If they aren't equal, the strings aren't palindrome.
5. The final result is printed.

Runtime Test Cases

Case 1:

Enter string:malayalam

The string is a palindrome

Case 2:

Enter string:hello

The string isn't a palindrome

2. Python Program to Calculate the Number of Upper Case Letters and Lower Case Letters in a String

This is a Python Program to count the number of lowercase letters and uppercase letters in a string.

Problem Description

The program takes a string and counts the number of lowercase letters and uppercase letters in the string.

Problem Solution

1. Take a string from the user and store it in a variable.
2. Initialize the two count variables to 0.
3. Use a for loop to traverse through the characters in the string and increment the first count variable each time a lowercase character is encountered and increment the second count variable each time a uppercase character is encountered.
4. Print the total count of both the variables.
5. Exit.

Program/Source Code

Here is source code of the Python Program to count the number of lowercase characters and uppercase characters in a string. The program output is also shown below.

“Program to Calculate the Number of Upper Case Letters and Lower Case Letters in a String”

```
string=input("Enter string:")
count1=0
count2=0
for i in string:
    if(i.islower()):
        count1=count1+1
    else(i.isupper()):
        count2=count2+1
print("The number of lowercase characters is:")
print(count1)
print("The number of uppercase characters is:")
print(count2)
```

Program Explanation

1. User must enter a string and store it in a variable.
2. Both the count variables are initialized to zero.
3. The for loop is used to traverse through the characters in the string.
4. The first count variable is incremented each time a lowercase character is encountered and the second count variable is incremented each time a uppercase character is encountered.
5. The total count of lowercase characters and uppercase characters in the string are printed.

Runtime Test Cases

Case 1:

Enter string:HeLlO

The number of lowercase characters is:

2

The number of uppercase characters is:

3

Case 2:

Enter string:WelCome

The number of lowercase characters is:

5

The number of uppercase characters is:

2

3. Python Program to convert the entered string into upper case as well as lower case.

This is a Python Program to Convert the entered string into upper case as well as lower case.

Problem Description

The program takes a string and Convert the entered string into upper case as well as lower case .

Problem Solution

1. Take a string from the user and store it in a variable.

2. Find the length of the string.
3. Use a for loop to traverse through all the characters in the string and converts all the character into uppercase character.
4. Print the string which is converted into uppercase.
5. Again use a for loop to traverse through all the characters in the string and converts all the character into lowercase character.
6. Print the string which is converted into lowercase.
7. Exit.

Program/Source Code

Here is source code of the Python Program to Convert the entered string into upper case as well as lower case. The program output is also shown below.

```
#Program to convert the entered string into uppercase as well as lowercase  
string=input("Enter string:")  
length=len(string)  
print("Converting the string into uppercase:")  
for i in string:  
    i=i.upper()  
    print(i,end="")  
print("\nConverting the string into lowercase:")  
for i in string:  
    i=i.lower()  
    print(i,end="")
```

Program Explanation

1. User must enter a string and store it in a variable.
2. Find the length of the string.
3. The for loop is used to traverse through all the characters in the string and converts all the character into uppercase character.
4. Print the string which is converted into uppercase.
5. Again the for loop is used to traverse through all the characters in the string and converts all the character into lowercase character.
6. Print the string which is converted into lowercase.

Runtime Test Cases

Case 1:

Enter string: Hello! How Are You?

Converting the string into uppercase:

HELLO! HOW ARE YOU?

Converting the string into lowercase:

hello! how are you?

Case 2:

Enter string: String Program

Converting the string into uppercase:

STRING PROGRAM

Converting the string into lowercase:

String program

Prepared by Rani Sastry, PGT
AECS-4, Mumbai