**Day 4 Tutorial : String control**.

Task 1: Knowledge and understanding (String Manipulation)

**1. How is a string represented in python? Draw the structure to store the word’s**

**“Saveetha”**

Strings in python are immutable sequences of Unicode characters. This means that once a string is created, it cannot be changed. Strings are represented in memory as a contiguous block of bytes, with each byte representing a single character.

[S] [a] [v] [e] [e] [t] [h] [a]

**2. What is the length of the string for the word “Saveetha”**

The length of the given string for the word “Saveetha” is 8.

**3. How do you access individual characters in a string in Python?**

There is two ways to access individual characters in a string in python.

**1.Using indexing**

Python strings are indexed starting from 0, so the first character in a string has index 0, the second character has index 1, and so on. To access a character at a specific index, you can use the following syntax:

**string[index]**

**2.Using slicing**

Python also supports string slicing, which allows you to access a slice of characters from a string. To slice a string, you can use the following syntax.

**string[start\_index:end\_index]**

**4.What is the positive and negative index for ‘v’ in the string “Saveetha”**

\*The positive index of v in the string “saveetha” is 2. This means that V is the third character in the string, Since python strings are indexed staring from 0.

\*The negative index of V in the string “saveetha” -2. This means that V is the second character from the end of the string.

**5. Provide an example of string indexing and slicing.**

string = "Hello, world!"

# String indexing

print(string[0])

print(string[2]) l

print(string[-1])

# String slicing

print(string[1:3])

print(string[2:])

print(string[:3])

**6. What are escape sequences in Python strings.**

Escape sequences are specila characters that can be used to insert special characters into strings into strings in python.

* \n:Newline
* \t:Tab
* \”:Double quote
* \’:Single quote
* [\\:Backslash](file:///\\:Backslash)

**7. Briefly explain with example any 2 built in functions to manipulate strings.**

1.Split:

The split() function splits a string into a list of substrings, based on a specified delimiter. The delimeter can be a single character, a string, or a regular expression.

Example:

string = "Hello, world!"

split\_string = string.split(",")

print(split\_string)

2:Join:

The join() function joins a list of strings into single strings, using a specified delimeter. The delimeter can be a single charater, a string, or a regular expression.

Example:

list\_of\_strings = ["Hello", "world!"]

joined\_string = ",".join(list\_of\_strings)

print(joined\_string)

**Task 2: Practical (String Manipulation)**

**Create a program that takes a user&#39;s input string and performs following string operations.**

**The program should ask the user to input a string, then let user select an operation to**

**manipulate the string and display the outcome at the end of program.**

**String operation:**

**a. Capitalize the string**

**b. Reverse the string**

**c. Display the length of the string**

**d. Find a specific word in a string**

**e. Replace a specific word with a new word**

**f. Extend the string**

i = input("Enter the Given string : ")

print("------MENU------"

"\na. Capitalize the String"

"\nb. Reverse the String"

"\nc. Display the Length of the String"

"\nd. Find the Specific word in a String"

"\ne. Replace a Specific word with a new word"

"\nf. Extend the String")

op = input('\nEnter your Option :')

if op == "a":

print("The Capitalize of the string is : \n", i.upper())

elif op == "b":

print("The Reverse of the string is : \n", i[::-1])

elif op == "c":

print("The Length of the Given String is : \n",len(i))

elif op == "d":

word = input("Enter the Word to find : ")

print("The Word Find at index : \n",i.find(word))

elif op == "e":

a = input("Enter Original : ")

b = input("Enter Modified : ")

nw = i.replace(a,b)

print("The Replacing of Specific word with a new word :")

print(f"Original = {i} \nModified = {nw}")

elif op == "f":

c = input("Enter the String to be Added : ")

print("The Extend Of the String is :\n",i + c)

else:

print("Invalid Option")