How to reverse a string in python

python, string

There are many data-types including integer, float, array and string etc. String is the one we are interested in today. So, in this tutorial we will be looking into How to reverse a string in python and find its solution.

Reversing string (Explanation)

Now let’s start with understanding string:

A group of letters and numbers is called a string.

Simply put, a character is a symbol. There are 26 characters in the English language, for instance.

Computers only work with numbers, not characters (binary). Even though characters may appear on your screen, they are actually stored and handled internally as a combination of 0s and 1s. Encoding is the process of changing a character into a number, and decoding is the opposite. One or two of the most widely used encodings are ASCII and Unicode. Python strings are made up of Unicode characters. Every character from every language is included in Unicode, which was created to bring encoding uniformity. Python Unicode is a resource for learning about Unicode.

Once we understood string, why reversing python strings can be difficult:

In Python, strings are immutable, which means they cannot be altered. Unlike other objects, like lists, which we can easily reverse using built-in methods, this one is different. Instead of changing the original string to reverse it, we must create a new string. Given that this is a question that frequently appears in programming interviews, it is crucial to comprehend this idea. Even though you might not frequently run into this in your day-to-day programming endeavours, it's important to keep in mind. Let's get started by discovering how to reverse a string in Python.

Solution

Using loop

def using\_loop(*str*):

    str\_res =  ""

    for i in range(len(*str*)-1, -1, -1):

        str\_res += *str*[i]

    return str\_res

Above is the function, it takes a string passed as a parameter named str. Then returns a reversed version of the string.

Let’s discuss its work flow:

Firstly, It, as told earlier takes a parameter named str and inside the function starts with declaring a variable named str\_res. Next, we run a loop from last index of the string which we find by len function and run a for loop from the last index to the very first one using range function. And inside the loop the each of the element of the string gets concatenated to the new string named str\_res and being the loop ran in makes the reversed version of the original string and returns the new string which is str\_res.

Using string slicing

def using\_slicing(*str*):

    return *str*[::-1]

Earlier, we seen the longer yet more conceptual approach now being done that, let’s move to the shorter and easier approach. Now, considering you know string slicing, we are proceeding with tutorial in case you don’t just refer to the FAQ below.

In this, we slip as earlier take a string as parameter called str. Then we perform our operation that is we use string slicing to generate directly the reversed form and directly return it.

Tip

If you are a beginner try to stick with the first one.

FAQ

Using the character indices in a string, we can cut a piece from it. String slicing with indices uses the syntax string name [start index:end index: step size]. Here, start index is the character's index within the string where string slicing begins. The character in the string at which the slice of the string ends is indicated by the index value end index. The character at end index will not be included in the sliced string because end index is exclusive in this case. The indices in the original string that will be a part of the sliced string are chosen using step size. When the step size is 1, the slice will be made up of characters that run continuously from the start index to the end index-1 of the original string. With a step size of 2, we will create a slice of the original string starting at start index and ending at end index-1 using alternative characters. With a step size of 3, we will choose characters from the original string, starting at the start index and ending at the end index-1, while leaving 2 positions between each character that must be included in the sliced string. Slices are cut in reverse order if the start index is greater than the end index and the step size has a negative value.

Conclusion

With the very end of this tutorial, let’s recap. String an immutable datatype in python. First way involves running loop in reverse and concatenating elements to a new one to get result. Second way, we simply use string slicing. Hope the information given here help you in your journey of learning python.