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Python iterate through string backwards

Reverse string in Python (5 different ways) Python string library supports the built-in reverse() as done by other Python containers like the list, so knowing other methods to reverse strings can be useful. This article discusses several ways to achieve this. Use of loop def reverse(s): str = for i in s: str = i + str return str s = Geeksforgeeks print (The original string is : ,end=) print (The reversed string(using loop is : ,end=) print (reverse(s)) Output: The original string is : Geeksforgeeks The reverse string (using loops) is : skeegrofskeeG Explanation : In the code above we mention a function to reverse a string , which iterates to each element and intelligently connects each character from the beginning to obtain the reverse string. Recursiv def reverse(s): if len(s) == 0: return s else: return reverse(s[1:]) + s[0] s = Geeksforgeeks print (The original string is : ,end=) print (s) print (The reversed string(using recursion) is : ,end=) print (reverse(s)) Output: The original string is : Geeksforgeeks The reverse string (using recursion) is : skeegrofskeeG Explanation : In the code above, string is passed as an argument to a recursive function to reverse the string. In the function, the basic condition is that if the length of the string is equal to 0, the string is returned. If it does not equal 0, the reverse function is recursively called to cut the part of the string, except for the first character, and summarize the first character until the end of the cut string. Using stack def createStack(): stack=[] return stack def size(stack): return len(stack) def isEmpty(stack): if size(stack) == 0: return true def push(stack,item): stack.append(item) def pop(stack): if isEmpty(stack): return return stack.pop() def reverse(string): n = len(string) stack = createStack() for i in range(0,n,1): push(stack,string[i]) string=pop(stack) return string s = Geeksforgeeks print (The original string is : ,end=) print (s) print (The reversed string(using stack) is : ,end=) print (reverse(s)) Output: The original string is : Geeksforgeeks The reversed string(using stack) is : skeegrofskeeG Explanation : An empty stack is created. One by one string is pushed to stack. One by one, all characters of the stack are pricked and put back to the string. Using extended slice syntax (the reversed string) is : ,1) return string s = Geeksforgeeks print (The original string is : ,end=) print (The reversed string(using extended slice syntax) is : ,end=) print (reverse(s)) Output: The original string is : Geeksforgeeks The inverted string (using extended slice syntax) is : skeegrofskeeG Explanation : Extended slice offers to put a step field as [start, stop ,step], and giving no field as start and stop defaults to 0 and string length, respectively, and -1 indicates starting from the end and stopping at the beginning, hence inverting string. String .reversed def reverse(string): string = join(reversed(string)) return string s = Geeksforgeeks print (The original string is : ,end=) print (The reversed string(using reversed) is : ,end=) print (reverse(s)) Output: The original string is : Geeksforgeeks The reversed string (using reversed) is : skeegrofskeeG Explanation : The reversed() returns the reversed iterator of the given string and then the elements are merged with empty string separated with join(). And reverse order string is formed. This article was contributed by Manjeet Singh. If you like GeeksforGeeks and want to contribute, you can also write an article with contribute.geeksforgeeks.org or email your article to contribute@geeksforgeeks.org. See your article on the main page of GeeksforGeeks and help other Geeks. Write comments if you find something incorrect, or if you want to share more information about the topic discussed above. Attention geek! Strengthen your foundations with the Python Programming Foundation Course and learn the basics. To begin with, your interview preparations improve your data structure concepts with the Python DS course. In this tutorial, you will find several ways to repeat strings in Python. You can use a for-loop, range in Python, cutting operator, and a few more methods to traverse the characters in a string. Multiple ways to repeat strings in Python Below are several ways to repeat the characters in a Python string. First, let's start with the for loop method. Use for loop to cross a string It is the most prominent and simple technique to repeat strings. Follow the example code below: Python Program: Using for loop to iterate over a string in Python string_to_iterate = Data Science for char in string_to_iterate: print(char) The result of the above encoding snippet is as follows: D a t a S c i e n c e Python range to repeat over a string Another fairly easy way to cross the string is to use the Python range function. This method allows us to access string elements using the index. Go through the following sample code: Python Program: Using range() to iterate over a string in Python string_to_iterate = Data Science for char_index in range(string_to_iterate): print(string_to_iterate[char_index]) The result of the above encoding snippet is as follows: D a t a S c i e n c e L e n i h c a M Using the range() function, we can cross a string as a substring using the Python segment operator ([]). It cuts off a substring of the original string and thus makes it possible to partially repeat over it. The [] operator has the following syntax: # Operator string cutting [start index : end index : step value] To use this method, specify the start and end indices along with a step value and then use the string. Below is the sample code that repeats the first six letters of a string. Python program: Use the slice [] operator to partially repeat over a string repeat = Python Data Science for character in string_to_iterate[0 : 6 : 1]: print(char) The result of the above encoding fragment is as follows: P y t h o n U further the use of the slice operator by using it to repeat over a string, but leaving any alternative character. See the example below: Python Program: Using slice [] operator to iterate over a specific parts of a string string_to_iterate = Python_Data_Science for char in string_to_iterate[: 2]: print(char) The result of the above encoding snippet is as follows: P o _ a n S i n c e L e n i h c a M Traverse string backwards using segment operator If you pass a -ve step value and skip both the start and end index , repeat in the backward direction. Go through the given code example. Python program: Use operator slice [] to repeat string backward string_to_iterate = Machine Learning for character in string_to_iterate[: -1]: print(char) The result of the above encoding snippet is as follows: g n i n r a e L e n i h c a M Using indexing to repeating strings, the Backward Slice operator first generates an inverted string , and then we use the for-loop to traverse it. Instead of doing it, we can use indexing to repeat strings back. Python program: Use indexing to repeat string backwards string_to_iterate = Machine Learning char_index = len(string_to_iterate) - 1 while char_index >= 0: print(string_to_iterate[char_index]) char_index -= 1 The result of the above encoding snippet is as follows: g n i n r a e L e n i h c a M Alternative, we can pass the index value of -ve and cross the string backwards. See the example below: Python program: Use -ve-index to repeat strings backward string_to_iterate = Learn python char_index = 1 while char_index <= len(string_to_iterate): print(string_to_iterate[-char_index]) char_index += 1 The result of the above encoding fragment is as follows: n o h t y P n r r a e L Summary – Program to repeat strings character by character Now let's consolidate and run all examples within the Main() function. Program: Python Program to iterate strings char by char def Main(): string_to_iterate = Data Science for char in string_to_iterate: print(char) string_to_iterate = Data Science for char_index in range(string_to_iterate): print(string_to_iterate[char_index]) string_to_iterate = Python Data Science for char in string_to_iterate[0 : 6 : 1]: print(char) string_to_iterate = Python_Data_Science for char in string_to_iterate string_to_iterate[29 : print(char) string_to_iterate = Machine Learning for char in string_to_iterate[: -1]: print(char) string_to_iterate = Machine Learning char_index = len(string_to_iterate) - 1 while char_index >= 0: char_index -= 1 string_to_iterate = Learn Python char_index = 1 while char_index <= len(string_to_iterate): print(string_to_iterate[-char_index]) char_index += 1 if __name__ == __main__: Main() The result of the above encoding fragment is as if D a t a S c i e n c e D a t a S c i e n c e P y t h o n P t o _ a a s i n g n i n r a e L e n i h c a M n o h t y P n r r a e L

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