

Lecture 16: Introduction to Computer Programming Course - CS1010

DEPARTMENT OF COMPUTER SCIENCE | 11/01/2019



Rensselaer

Announcements

- Exam 2 is scheduled for Tuesday (November 5)
- We will review the back exam today

Goals for today

- Problems on For Loops
- In-Class exercise
- Exam Review

From the previous Lecture

- Structure of for loops:
 - for **variable** in **iterable**:
 - Do something using the **actual** value of elements in the iterable
 - Do something using the **index** of each element in the iterable
- Example to print **actual values** of the **iterable**:
 - List1 (iterable)=[1,3,7,9]
 - for **x** in **List1**:
 - **print x**
- Example to **access/modify** elements using **indices (position)**:
 - Str1(iterable) = 'abcdef'
 - for **i** in range(len(**Str1**)):
 - **Str1[i]** = 'n'

Problem 1a

- Given a string and a substring, return true if substring is in the string.

Problem 1b

- Given a list of characters and a string. Return the number of characters that are there in the string.
- `l1=['a','b','c','d','r']`
- `s1='c1tdoorrbn'`
- Result: 4

Problem 2

- Write a program that returns a list of even numbers up to a given integer n .

Problem 3

- Write a Python program that accepts a word from the user and reverse it using for loop.

Problem 4

- Write a function that takes input as a string and a substring. Return the number of times the substring is found in the string.
- `string1 = 'catdogelephantdogeleph'`
- `sub = 'eleph'`
- `Result=2`

Problem 5

- Given an array of integers, return True if the array contains a 2 next to a 2 somewhere.
- - has22([1, 2, 2]) → True
 - has22([1, 2, 1, 2]) → False
 - has22([2, 1, 2]) → False

Problem 6

- Given two strings, return True if either of the strings appears at the very end of the other string, ignoring upper/lower case differences (in other words, the computation should not be "case sensitive"). Note: `s.lower()` returns the lowercase version of a string.
- Test cases:
 - `end_other('Hiabc', 'abc') → True`
 - `end_other('AbC', 'HiaBc') → True`
 - `end_other('abc', 'abXabc') → True`
 - `end_other('abc', 'abXabcx') → False`

Problem 7

- Write a Python program which iterates the integers from 1 to 50. For multiples of three print "Fizz" instead of the number and for the multiples of five print "Buzz". For numbers which are multiples of both three and five print "FizzBuzz".

Problem 8

- Write a Python program that accepts a string and calculate the number of digits and letters.

Next Class

Error and exception handling