

Programmiertechniken in der Computerlinguistik I

Herbstsemester 2015

4. Sitzung, 15. Oktober 2015

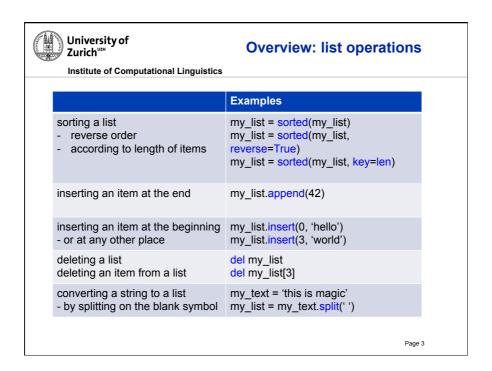
Martin Volk

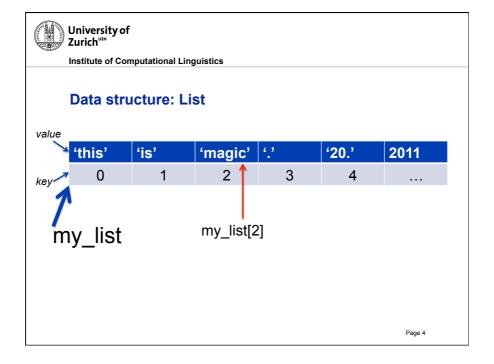


Overview: for loop + lists

Institute of Computational Linguistics

	Examples
for loop	for my_item in my_list for my_num in range(0, 30) for my_num in range(0, 30, 3) for my_num in range(30)
lists	[2, 4, 6, 8, 10] ['python', 'is', 'great'] ['27.', 'Oktober', 2011]
list assignment and concatenation	my_list1 = [3, 6, 9, 12] my_list2 = [2, 4, 8, 16] my_long_list = my_list1 + my_list2
accessing and changing items in a list	my_item = my_list[2] my_part = my_long_list[:5] my_long_list[3] = 64
	Page 2







In class task 1

Given: a simple Python program for compound splitting with a *while* loop.

Rewrite the program using a *for* loop and the *range* function.

Page 5



Institute of Computational Linguistics

In class task 2

Given a string.

Write a Python program that prints all **character trigrams** (= sequences of 3 characters).

For example

Given the string 'Python is a great language'

my_trigram_printer.py returns:

Pyt

yth

tho

hon

on

n i

is

Page



In class task 3

Given a list of words.

Write a Python program that prints only every second word.

For example:

Given the list: ['Python', 'mostly' 'is', 'a', 'great', 'language'] my_alternation_filter.py returns:

Python is great

Hint: Use a for loop and set the iterator as you need it.

Page 7



Institute of Computational Linguistics

In class task 4

Given a list of numbers.

Write a Python program that computes the median value (i.e. the value where "half" of the numbers are lower and "half" are higher).

For example:

Given the list: [18, 21, 16, 24, 19, 16, 23, 26]

my_median.py returns:

The median is 21

Note: When the list has an even number of elements, the median shall be the first number of the upper half.

Page 8



Overview: File handling

	Examples
Command line arguments	import sys my_filename = sys.argv[1] my_arguments = sys.argv
Open file for r eading Open file for w riting - my_infile / my_outfile are file objects	my_infile = open(my_filename, 'r') my_outfile = open(my_filename, 'w')
Close file	my_infile.close()
Loop over each line in a file	for my_line in my_infile

Page 9



Institute of Computational Linguistics

Programming Techniques in this Lesson

- Split words and check for compounding or inflection
- Compute max value (e.g. longest word) over a file
- Compute character trigrams
- Open a file for reading and loop over the lines

Page 1