

Lesson 1: Week 3 - Overview

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Week 3 Tuesday To Do List

Week 3 Tuesday To Do List
Admin/Tips Assignment 1 worth 13 marks will be released today @ 7.15pm
Quiz 1 worth 4 marks is due Week 3 Thursday @ 9pm
Content Continue "Week 2 - Lists, Tuples, Sets, and Dictionaries" lesson
Adding elements
Adding to a list: `append()`, `insert()`, `extend()`, and using `+` operator
No adding to tuples since they are immutable
Adding to a set: `add()` and `update()`
Adding to a dictionary by specifying a value for a new key or updating it
Removing elements
Removing from a list: `del`, `set slice` to empty list, `pop()`, `remove()`, and `clear()`
No removing from tuples since they are immutable
Removing from a set: `remove()`, `discard()`, and `clear()`
Removing from a dictionary: `del`, `pop()`, and `clear()`
Modifying elements
Modifying list elements: assignment and slice
No tuples modification since they are immutable
Modifying set elements: can not be changed, but remove then add
Modifying dictionary elements: using assignment similarly to list elements
Sorting elements
`sort()` method (lists only and in-place)
`sorted()` method (applies to all and returns a list)
Joining elements using `join()` string method
Special string operations
Strings as tuples
Splitting strings
Special set operations: union, intersection, difference, symmetric difference, comparing sets
Comprehensions
Files as lists: `readlines()`, `writelines()`, reading CSV files
Dates and times
Start "Functions" lesson
Functions
Defining functions
Variable scope
Nested functions
Lambda functions
Functions are objects
Generators
Useful Links
For examples of Flow of Execution, see:
<https://runestone.academy/ns/books/published/thinkcspy/Functions/FlowofExecutionSummary.html>
Python List `sort()` Method <https://www.programiz.com/python-programming/methods/list/sort>
Python `sorted()` Method <https://www.programiz.com/python-programming/methods/built-in/sorted>

Week 3 Thursday To Do List

Week 3 Thursday To Do List
Admin/Tips Assignment 1 discussion
Quiz 2 worth 4 marks will be released today @ 7.15pm
Quiz 1 worth 4 marks is due today @ 9pm
Content Continue "Functions" lesson
Defining functions
Variable scope
Nested functions
Lambda functions
Functions are objects
Generators
Week 3 - Notes 2
The Monty Hall Problem
functions from the random module (`random()`, `choice()`, `randrange()`, `seed()`, ...) `input()` function `int()` function `exceptions` `break` statement `title()` and `lower()` str class methods `sets`, `sets vs dictionaries` `choice()` function `randrange()` function `remove()` and `pop()` list class methods
multiple assignments
functions with default parameter values
formatted strings
12 possible outcomes: winning door A A A A B B B B C C C C first chosen A A B C B B A C C C A B opened door B C C B A C C A A B B A 24 possible outcomes: winning door A A A A A A A A B B B B B B B C C C C C C C first chosen A A A A B B C C B B B A A C C C C C A A B B opened door B B C C C C B B A A C C C C A A A A B B B B A A 2nd chosen door A C A B A B A C B C B A B A B C C B C A C A C B
Useful Links
`doctest` — Test interactive Python examples (will be used for final exam questions)
<https://docs.python.org/3/library/doctest.html>