

# Ling 555 — Programming for Linguists

Python — Dictionaries

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# Outline

## Homework questions

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## Miscellaneous tips

### 2 Miscellaneous tips

- Sorting lists and tuples
- Mixing interactive and non-interactive

## Dictionary basics

### 3 Dictionary basics

- string formatting with dicts
- LOD, DOL, DOD, etc.

## Dictionary methods

### 4 Dictionary methods

- keys, values
- items
- other methods

# Escaping string

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[hmwk2](#)

## Miscellaneous tips

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```
escaped="Before adding text to SQL  
databases, all single '\\' and  
double quote '\"' characters  
(as well as the backslash  
character '\\' itself) must be  
escaped with the backslash  
'\\\\' character."
```

```
print escaped
```

```
#OR
```

```
escaped=r"Before adding text to SQL  
databases, all single '\'' and  
double quote '\"' characters (as  
well as the backslash character '\\  
itself) must be escaped with the  
backslash '\\\\' character."
```

# Sorting lists and tuples

## Tip:

You can sort a list of tuples. The sorting will be done first by the first element of the tuple, and then by the second element

## Example

```
lot=[(1,2), (2,1), (4,3), (2,2),  
      (3,2), (1,1), ("3","a")]  
lot.sort()  
# OR, to create a new list  
lot_sorted=sorted(lot)
```

More on sorting at:

<http://wiki.python.org/moin/HowTo/Sorting>

# Mixing interactive and non-interactive

## Tip

You can mix an interactive and non-interactive session.

## Script File:

```
#!/usr/bin/env python  
gradebook=dict()
```

## Interactive:

```
from hmwk4.py import *  
type(gradebook)
```

# String formatting

## Definition

You can use dictionary keys in string formatting.

## practice

Create a new dictionary called phonebook, and store your phone number in it.

- 1 Print out your name and number using the dictionary style syntax

# String formatting

## Definition

You can use dictionary keys in string formatting.

## practice

Create a new dictionary called phonebook, and store your phone number in it.

- 1 Print out your name and number using the dictionary style syntax  

```
phonebook=dict()  
phonebook['rob']='555-6785'  
print('Rob: %(rob)s' % phonebook)
```

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string

dol, lod, etc.

**Dictionary  
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## Dictionaries of lists et al.

We already knew about lists of lists. Now we can also do:

Lists of dictionaries `lod[4] 'number'`

Dictionaries of dictionaries `dod['four'] 'number'`

Dictionaries of lists `lod['four'] 4`

And any other combination, e.g. lolod, lodod, dodol, dododolod



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## Practice

- 1 Construct a class database. For each person, include their nickname and favorite color.
- 2 Print out the favorite color for one person

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- 1 Construct a class database. For each person, include their nickname and favorite color.

```
theclass=dict()
theclass['robfelty']={'nickname':
'rob', 'color': 'forest green'}
theclass['mabdulma']={'nickname':
'Muhammad', 'color': 'orange'}
theclass['djefford']={'nickname':
'Dustin', 'color': 'red'}
```

- 2 Print out the favorite color for one person

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'Dustin', 'color': 'red'}
```

- 2 Print out the favorite color for one person  
`print(theclass['robfelty']['color'])`

# keys, values

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## practice

- 1 Print the keys from the class database
- 2 Sort the keys from the class database
- 3 Print just the values from the class database

keys

items

other methods

# keys, values

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## practice

- 1 Print the keys from the class database  
`print(theclass.keys())`
- 2 Sort the keys from the class database
- 3 Print just the values from the class database

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other methods

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### practice

- 1 Print the keys from the class database  
`print(theclass.keys())`
- 2 Sort the keys from the class database  
`theclaskeys=theclass.keys()`  
`theclaskeys.sort()`
- 3 Print just the values from the class database

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### practice

- 1 Print the keys from the class database  
`print(theclass.keys())`
- 2 Sort the keys from the class database  
`theclaskeys=theclass.keys()`  
`theclaskeys.sort()`
- 3 Print just the values from the class database  
`print(theclass.values())`

keys

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## practice

- 1 Convert the dictionary into a list
- 2 Print out the class database, sorted by username.



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## practice

- 1 Convert the dictionary into a list  
`theclasslist=theclass.items()`
- 2 Print out the class database, sorted by username.

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## practice

- 1 Convert the dictionary into a list  
`theclasslist=theclass.items()`
- 2 Print out the class database, sorted by username.  
`theclasslist.sort()`  
`print(theclasslist)`

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**questions?**

Any questions on other dictionary methods the book mentions?