

8 Dictionary

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1. A dictionary is a mapping

Dictionary v.s. List

Defining Dictionary

Add new items

Define an empty dictionary, then add items.

2. Lookup

len function

Lookup

Get keys and values

3. Dictionary and list/tuple

Dictionary comprehension

4. Practice questions

1. Character counts. Given a string, try to obtain the counts of the characters in it (case insensitive). For example, given "Rutgers, RBS", the output should be the following dictionary

`{'T': 1, 'R': 3, 'B': 1, 'E': 1, ' ': 1, 'S': 2, 'U': 1, 'G': 1}`

2. Reverse lookup. The following dictionary shown the rosters of the three courses. We can easily check the student names each course has. Now we would like to do reverse lookup. That is, we would like to get a dictionary showing the courses that each student is taking.

```
roster = {  
    'STATS_385': ['Jack', 'Anne', 'John', 'Peter'],  
    'PROG_388': ['Tom', 'Mark', 'Jack', 'Jin'],  
    'LARGESCALE_487': ['Anne', 'John', 'Jin', 'Jack']  
}
```