DICTIONARIES
Dictionaries

Dictionary is a set of key-value pairs.

\[
dict = \{ \\
    key1: value1, \\
    key2: value2, \\
    key3: value3, \\
    \ldots \\
\}
\]

\[
dim = \{ \\
    'length': 100, \\
    'width': 50, \\
    'height': 20 \\
\}
\]
Adding values

Values can be added using the same syntax as is used for lists.

\[
\text{dict}[\text{key}] = \text{value}
\]

\[
\text{dim[}'depth'\text{]} = 15
\]

Existing values can be changed:

\[
\text{dict}[\text{key}] = \text{newvalue}
\]

\[
\text{dim[}'depth'\text{]} = 25
\]

\[
\text{dim[}'depth'\text{]} -= 10
\]
Quering values

Values can be queried in a similar way as the values of elements in a list.

```python
>>> dict['key1']
value1

>>> dict['key2']
value2

>>> dim['length']
100

>>> dim['depth']
15
```
Checking if a key exists in a dictionary

```python
if key in dict:
    statements

if 'width' in dim:
    print(dim['width'])
else:
    print('Not found')
```
Looping over all keys in a dictionary

```python
for key in dict:
    statements

for key in dim:
    print('Key name', key)
    print('Key value is', dim[key])
```
## Dictionary application examples

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