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DICTIONARIES

WAT LEREN WE?

▸ Dictionaries

▸ Dictionary keys en waardes

▸ Dictionary methodes ~~copy()~~, **keys()**, **values()**, **items()** en **get()**

▸ Complexe dictionaries

▸ Snelheid verschillen tussen lists en dictionaries

WAT?

▸ Ongeordende verzameling keys met geassocieerde values.

▸ Keys zijn immutable: getallen, strings, tuples

```
>>> fruitmand = {'kiwi': 3, 'bes': 12, 'peer': 5}
>>> print(fruitmand['bes'])
12
>>> print(fruitmand['appel'])
Traceback (most recent call last):
  File "<input>", line 1, in <module>
KeyError: 'appel'
```

DICTIONARY DOORLOPEN

▸ For-lus:

```python
fruitmand = {'kiwi': 3, 'bes': 12, 'peer': 5}

for sleutel in fruitmand:

    print(sleutel, fruitmand[sleutel])
```

```
kiwi 3

bes 12

peer 5
```

WERKEN MET DICTIONARY

▸ Key toevoegen en values wijzigen

```
>>> fruitmand = {'kiwi': 3, 'bes': 12, 'peer': 5}

>>> fruitmand['appel'] = 6

>>> fruitmand['kiwi'] = 5

>>> fruitmand['peer'] += 4

>>> print(fruitmand)

{'kiwi': 5, 'bes': 12, 'peer': 9, 'appel': 6}
```

WERKEN MET DICTIONARY

▸ Value van onbestaande key veranderen

```
>>> fruitmand = {'kiwi': 3, 'bes': 12, 'peer': 5}

>>> fruitmand['appel'] += 4

Traceback (most recent call last):

  File "<input>", line 1, in <module>

KeyError: 'appel'
```

NIEUWE KEY/VALUE OF UPDATE KEY/VALUE?

▸ Controleer of key reeds bestaat:

```python
fruit = input('fruit: ')

aantal_stukken = input('aantal: ')



fruitmand = {'kiwi': 3, 'bes': 12, 'peer': 5}



if fruit in fruitmand:

    fruitmand[fruit] += aantal_stukken

else:

    fruitmand[fruit] = aantal_stukken
```

KEYS EN VALUES DICTIONARY

▸ **keys()** en **values()**

```python
fruitmand = {'kiwi': 3, 'bes': 12, 'peer': 5}

for key in fruitmand.keys():

    print(key)
```

```python
fruitmand = {'kiwi': 3, 'bes': 12, 'peer': 5}

for value in fruitmand.values():

    print(value)
```

ALLE ITEMS VAN EEN DICTIONARY

▸ `items()`

```python
fruitmand = {'kiwi': 3, 'bes': 12, 'peer': 5}

for key, value in fruitmand.items():

    print('{} - {}'.format(key, value))
```

```
kiwi - 3

bes - 12

peer - 5
```

VALUE OPVRAGEN

▸ `get()`

```
>>> fruitmand = {'kiwi': 3, 'bes': 12, 'peer': 5}

>>> aantal = fruitmand.get('bes')

>>> print(aantal)

12

>>> aantal = fruitmand.get('aardbei')

>>> print(aantal)

None
```

KEY VERWIJDEREN

▸ `pop()`

```
>>> fruitmand = {'kiwi': 3, 'bes': 12, 'peer': 5}

>>> fruitmand.pop('kiwi')

3

>>> print(fruitmand)

{'bes': 12, 'peer': 5}
```

COMPLEXE VALUES

▸ Value is een list

```
>>> teams = {'geel':['sam', 'kim'], 'rood': ['jan']}

>>> teams['rood'] += ['sien']

>>> print(teams)

{'geel': ['sam', 'kim'], 'rood': ['jan', 'sien']}
```

VALUE UIT EEN LIST

▸ Indices of niet?

```
>>> teams = {'geel':['sam', 'kim'], 'rood': ['jan']}

>>> print(teams['rood'][0])

jan
```