Dictionaries

A dictionary is one of the built-in function in Python, It is similar to list, but in dictionary the indices can be any type. It defines one-to-one relationships between keys and values.

Creating Dictionaries

The function *dict* creates a new dictionary with no items.

```
>>> name = dict()      # creates an empty dictionary with an variable name
>>> name
{}                     # represents an empty dictionary
```

> **Note**
>
> *dict* is a built-in function should not use as a variable name in Python.

Adding items

We use square brackets([]) to add items into the dictionary.

```
>>> name['PCP'] = 'C' # creates an item that maps from key 'PCP'
                          to  the value  'C'
>>> print(name)       # It shows as a key-value pair with a colon between them
{'PCP':'C'}
```

We can also create multiple items in a dictionary.

```
>>> name = {'PCP':'C',  'MPP' = 'Python', 'OOPS':'Java'}
```

```
>>> name = {'PCP':'C', 'MPP':'Python', 'OOPS':'Java'}
>>> print(name)
{'PCP': 'C', 'OOPS': 'Java', 'MPP': 'Python'}
>>>
```

Figure 1: Creating Dictionaries

Accesing Values

We can access values from the dictionary as follows observe:

```
>>> name
{'PCP': 'C', 'OOPS': 'Java', 'MPP': 'Python'}
>>> name['OOPS']
'Java'
>>> name['MPP']
'Python'
>>>
```

Figure 2: Accessing Values

Modifying Dictionaries

Assigning a value to an existing key will wipe out the old value observe the following:

```
>>> name
{'PCP': 'C', 'OOPS': 'Java', 'MPP': 'Python'}
>>> name["PCP"] = "C Language"
>>> name
{'PCP': 'C Language', 'OOPS': 'Java', 'MPP': 'Python'}
>>> name['OOPS'] = 'Core Java'
>>> name
{'PCP': 'C Language', 'OOPS': 'Core Java', 'MPP': 'Python'}
>>>
```

Figure 3: Modifying Dictionaries

Deleting items

By using *del* we can delete individual items from a dictionary by key.

```
>>> name = {'PCP':'C', 'MPP':'Python', 'OOPS':'Java'}
>>> name['SQL'] = 'Database'
>>> name
{'PCP': 'C', 'OOPS': 'Java', 'MPP': 'Python', 'SQL': 'Databa
se'}
>>> name['OOPS']
'Java'
>>> name['OOPS'] = 'Core Java'
>>> name
{'PCP': 'C', 'OOPS': 'Core Java', 'MPP': 'Python', 'SQL': 'D
atabase'}
>>> del name['SQL']
>>> name
{'PCP': 'C', 'OOPS': 'Core Java', 'MPP': 'Python'}
>>> del name['OOPS']
>>> name
{'PCP': 'C', 'MPP': 'Python'}
>>>
```

Figure 4: Deleting Items