Assignment No. 5

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1. What does an empty dictionary's code look like?

Ans-1

> **Dictionary:**
>
> - Dictionary in Python is an unordered collection of data values, used to store data values like a map, which unlike other Data Types that hold only a single value as an element, Dictionary holds key:value pair. Key-value is provided in the dictionary to make it more optimized.
> - We can create an empty dictionary object by giving no elements in curly brackets in the assignment statement.
> - **Example:**

In [9]:
```
# Python3 code to demonstrate use of

emptyDict = {}               # {} symbol to initialize empty dictionary

print(f"The empty dictionary is : {emptyDict}")          # print dictionary

print(f"The Length  of dictionary is : {len(emptyDict)}" )        # print length of dictionary

print(f"The type of dictionary is : {type(emptyDict)}")                  # print type
```

```
The empty dictionary is : {}
The Length  of dictionary is : 0
The type of dictionary is : <class 'dict'>
```

2. What is the value of a dictionary value with the key 'foo' and the value 42?

Ans-2

> - Dictionary holds key:value pair. Key-value is provided in the dictionary to make it more optimized.
> - Here, the given key and value are : **`key = 'foo'`** , **`value=42`** .
> - Therefore the structure of dictionary is shown as below:

In [11]:
```
dict = {'foo':42}

print(f"The dictionary with given key & value is : {dict}")
```

```
The dictionary with given key & value is : {'foo': 42}
```

3. What is the most significant distinction between a dictionary and a list?

Ans-3

> - `Lists` are used to store the data, which should be ordered and sequential. On the other hand, `dictionary` is used to store large amounts of data for easy and quick access.
> - `List` is ordered and mutable, whereas `dictionaries are` unordered and mutable.

4. What happens if you try to access spam['foo'] if spam is {'bar': 100}?

Ans-4

> - If we try to access `spam['foo']` if `spam = {'bar':100}` , then we will get ERROR as shown below,

In [14]:
```
# given conditions
spam = {'bar':100}

spam['foo']                      #This will give us key error
```

```
---------------------------------------------------------------------------
KeyError                                  Traceback (most recent call last)
Input In [14], in <cell line: 4>()
      1 # given conditions
      2 spam = {'bar':100}
----> 4 spam['foo']

KeyError: 'foo'
```

5. If a dictionary is stored in spam, what is the difference between the expressions 'cat' in spam and 'cat' in spam.keys()?

Ans-5

> - Let us assume, spam is a dictioanry with key='cat `and` value=100`.
> - If we tried to run `cat in spam` then we will get output as a `True` .
> - If we tried to run `cat in spam.keys()` then we will get output as a `True` .
> - **Example:** The result of both statement shown below:

In [19]:
```
spam ={'cat':100}

print('cat' in spam)
print('cat' in spam.keys())
```

```
True
True
```

6. If a dictionary is stored in spam, what is the difference between the expressions 'cat' in spam and 'cat' in spam.values()?

Ans-6

> - Let us assume, spam is a dictioanry with key='cat `and` value=100`.
> - If we tried to run `cat in spam` then we will get output as a `True` .
> - If we tried to run `cat in spam.value()` then we will get output as a `False` .
> - **Example:** The result of both statement shown below:

In [21]:
```
spam ={'cat':100}

print('cat' in spam)
print('cat' in spam.values())
```

```
True
False
```

7. What is a shortcut for the following code?

```
if 'color' not in spam:
        spam['color'] = 'black'
```

Ans-7

> - The shortcut for the given code is shown below:

In [22]:
```
spam ={'cat':100}
spam.setdefault('color','black')
spam
```

Out[22]:
```
{'cat': 100, 'color': 'black'}
```

8. How do you "pretty print" dictionary values using which module and function?

Ans-8

> - The `pretty print` dictionary values using module and functions can be arranged as below

In [35]:
```
import pprint

dct = [ {'Name': 'Shiva', 'Age': '23', 'Country': 'India'},
  {'Name': 'Anna', 'Age': '44', 'Country': 'China'},
  {'Name': 'Joe', 'Age': '29', 'Country': 'UK'},
  {'Name': 'Chumlee', 'Age': '35', 'Country': 'USA'}
]
```

In [36]:
```
# printing with pprint()
pprint.pprint(dct)
```

```
[{'Age': '23', 'Country': 'India', 'Name': 'Shiva'},
 {'Age': '44', 'Country': 'China', 'Name': 'Anna'},
 {'Age': '29', 'Country': 'UK', 'Name': 'Joe'},
 {'Age': '35', 'Country': 'USA', 'Name': 'Chumlee'}]
```

In [38]:
```
# Printing with print()
print(dct)
```

```
[{'Name': 'Shiva', 'Age': '23', 'Country': 'India'}, {'Name': 'Anna', 'Age': '44', 'Country': 'China'}, {'Na
me': 'Joe', 'Age': '29', 'Country': 'UK'}, {'Name': 'Chumlee', 'Age': '35', 'Country': 'USA'}]
```