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

my\_dict= {}

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

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

The most significant distinction between a dictionary and a list is that the dictionary is a hashed structure of key and value pairs whereas, a list is a collection of index values pairs.

Lists are just like the arrays, declared in other languages. Lists need not be homogeneous always which makes it a most powerful tool in Python. A single list may contain DataTypes like Integers, Strings, as well as Objects. Lists are mutable, and hence, they can be altered even after their creation.

Dictionary in Python on the other hand is an unordered collection of data values, used to store data values like a map, which unlike other Data Types that hold only single value as an element, Dictionary holds key:value pair. Key-value is provided in the dictionary to make it more optimized. Each key-value pair in a Dictionary is separated by a colon :, whereas each key is separated by a ‘comma’.

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| --- | --- |
| LIst | Dictionary |
| List is a collection of index values pairs as that of array in c++. | Dictionary is a hashed structure of key and value pairs. |
| List is created by placing elements in [ ] separated by commas “, “ | Dictionary is created by placing elements in { } as “key”:”value”, each key value pair is separated by commas “, “ |
| The indices of list are integers starting from 0 | The keys of dictionary can be of any data type. |
| The elements are accessed via indices. | The elements are accessed via key-values. |
| The order of the elements entered are maintained. | There is no guarantee for maintaining order. |

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

It will give a key error.

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

spam= {'cat': 100}

When ‘cat’ is in the dictionary spam the ‘cat’ is a key in it.

spam.keys() returns a list of all the available keys in the dictionary. So ‘cat’ in spam.keys() will be in a list as a list element.

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

spam= {'dog': 'cat'}

When ‘cat’ is in the dictionary spam the ‘cat’ is a value in it.

The method values() returns a list of all the values available in a given dictionary. So ‘cat’ will be in a list as a list element.

7. What is a shortcut for the following code?

if 'color' not in spam:

spam['color'] = 'black'

Python Dictionary setdefault() returns the value of a key (if the key is in dictionary). Else, it inserts a key with the default value to the dictionary.

spam.setdefault(‘color’, ‘black’)

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

# We first import the pprint module as shown below.

import pprint

# syntax for pretty print dict python

pprint.pprint(dictionary\_name)

# the first `pprint` is to call the module.

# secon pprint is the function that helps to call the pretty print dict python.

# dictionary\_name refers to the object which is a mandatory parameter to pass in the pprint function.