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

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

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

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

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

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

7. What is a shortcut for the following code?

if 'color' not in spam:

spam['color'] = 'black'

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

Answers:

1. An empty dictionary's code looks like `{}`.

2. The value of a dictionary value with the key 'foo' and the value 42 would be `42`.

3. The most significant distinction between a dictionary and a list is that a dictionary is an unordered collection of key-value pairs, while a list is an ordered collection of elements. In a dictionary, the elements are accessed by their keys, whereas in a list, elements are accessed by their indices.

4. If you try to access `spam['foo']` and `spam` is `{'bar': 100}`, you would get a `KeyError` because the key `'foo'` does not exist in the dictionary `spam`.

5. If a dictionary is stored in `spam`, the expression `'cat' in spam` checks if the key `'cat'` exists in the dictionary `spam`. It returns `True` if the key is present and `False` otherwise. The expression `'cat' in spam.keys()` is equivalent and also checks for the presence of the key `'cat'` in the dictionary `spam`.

6. If a dictionary is stored in `spam`, the expression `'cat' in spam` checks if the value `'cat'` exists in any of the values of the dictionary `spam`. It returns `True` if the value is present and `False` otherwise. The expression `'cat' in spam.values()` is equivalent and also checks for the presence of the value `'cat'` in the dictionary `spam`.

7. A shortcut for the code `if 'color' not in spam: spam['color'] = 'black'` is to use the `setdefault()` method of dictionaries. You can write it as `spam.setdefault('color', 'black')`. This method checks if the key `'color'` is present in the dictionary `spam`. If it is, it returns the corresponding value. If it is not, it adds the key-value pair `'color': 'black'` to the dictionary and returns the value `'black'`.

8. To "pretty print" dictionary values, you can use the `pprint` module and the `pprint()` function. The `pprint()` function provides a way to display dictionary values in a more readable and formatted manner. You can use it like this: `pprint.pprint(dictionary)`.