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

Ans -

empty\_dict{}

1. **What is the value of a dictionary value with the key ‘foo’ and the value 42?**

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

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

Ans -

- A dictionary is an unordered collection of key-value pairs accessed by unique keys.

- A list is an ordered collection of elements accessed by their positions or indices.

1. **What happens if you try to access spam[‘foo’] if spam is {‘bar’: 100}?**

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

**5. If a dictionary is stored in spam, what is the difference between the expressions ‘cat’ in spam and**

**‘cat’ in spam.keys()?**

Ans - The expressions `'cat' in spam` and `'cat' in spam.keys()` are functionally equivalent and will both check if the key `'cat'` exists in the dictionary `spam`.

The difference lies in how they perform the check:

1. `'cat' in spam`: This expression checks if the key `'cat'` exists directly within the dictionary `spam`. It will return `True` if the key exists as a direct key in the dictionary, regardless of its associated value.

2. `'cat' in spam.keys()`: This expression retrieves a list of all the keys in the dictionary `spam` using the `keys()` method, and then checks if `'cat'` is present in that list of keys. It will also return `True` if the key `'cat'` exists in the dictionary.

In terms of functionality, both expressions will give the same result. However, the second expression, `'cat' in spam.keys()`, involves an additional step of retrieving all the keys and creating a list, which could be less efficient compared to directly checking if the key exists in the dictionary using `'cat' in spam`. Therefore, it is generally recommended to use `'cat' in spam` for simplicity and efficiency.

**6. If a dictionary is stored in spam, what is the difference between the expressions ‘cat’ in spam and**

**‘cat’ in spam.values()?**

Ans - The expressions `'cat' in spam` and `'cat' in spam.values()` have different meanings and perform different checks in a dictionary:

1. `'cat' in spam`: This expression checks if the key `'cat'` exists in the dictionary `spam`. It will return `True` if `'cat'` is a key in `spam`.

2. `'cat' in spam.values()`: This expression checks if the value `'cat'` exists in the dictionary `spam`. It will return `True` if `'cat'` is one of the values associated with any key in the dictionary.

**7. What is a shortcut for the following code?**

**if ‘color’ not in spam:**

**spam[‘color’] = ‘black’**

Ans -

spam.setdefault('color', 'black')

1. **How do you ‘pretty print’ dictionary values using which module and function?**

Ans - To "pretty print" dictionary values in Python, you can use the `pprint` module and its `pprint()` function.

The `pprint` module provides a `pprint()` function that formats the output of complex data structures, such as dictionaries, in a more readable and organized way. It prints the dictionary values in a visually appealing manner with indentation and line breaks.