

Answer

1. An empty dictionary in Python is denoted by curly braces with no key-value pairs inside.
`{}`
2. The value of a dictionary with the key `'foo'` and the value `42` would look like this
`{'foo': 42}`
3. The most significant distinction between a dictionary and a list is how they organize data:
Dictionary:
 - Organizes data in key-value pairs.
 - Accessed by keys rather than by numerical index.
 - Unordered collection of items (in Python versions before 3.7), meaning the order of items may not be preserved.List:
 - Organizes data in a sequential order.
 - Accessed by numerical index, starting from 0.
 - Ordered collection of items, meaning the order of items is preserved.
4. 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`, the expression `'cat' in spam` checks if the key `'cat'` exists in the dictionary `spam`, while the expression `'cat' in spam.keys()` also checks if the key `'cat'` exists in `spam` but specifically searches among the keys of the dictionary. The two expressions essentially check for the same condition, but the latter is more explicit in its intention to search among the keys of the dictionary.
6. If a dictionary is stored in `spam`, the expression `'cat' in spam` checks if the key `'cat'` exists in the keys of the dictionary `spam`, while the expression `'cat' in spam.values()` checks if the value `'cat'` exists in any of the values of the dictionary `spam`. The former expression searches among the keys, while the latter searches among the values of the dictionary.
7. A shortcut for the provided code is to use the `setdefault()` method:
`spam.setdefault('color', 'black')`
8. You can "pretty print" dictionary values using the `pprint` module in Python. Specifically, you can use the `pprint()` function from this module to print dictionary values in a more human-readable format.

```
import pprint

my_dict = {'name': 'John', 'age': 30, 'city': 'New York'}

# Pretty print the dictionary
pprint.pprint(my_dict)
```