Assignment-5

1. What does an empty dictionary's code look like?
   An empty dictionary's code looks like this: {}.

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

3. What is the most significant distinction between a dictionary and a list?
   The most significant distinction between a dictionary and a list in Python is the way they store and access their elements.
   A dictionary is a collection of key-value pairs, where each key is unique and maps to a value.
   A list is a collection of ordered and indexed elements.

4. What happens if you try to access spam['foo'] if spam is {'bar': 100}?
   If you try to access spam['foo'] and spam is {'bar': 100}, a KeyError will be raised since 'foo' is not a key 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()?
   The expression 'cat' in spam directly checks if the key 'cat' is present in the keys of the dictionary spam. Whereas The expression 'cat' in spam.keys() retrieves all the keys of the dictionary spam and checks if the key 'cat' is present in the list of keys.

6. If a dictionary is stored in spam, what is the difference between the expressions 'cat'in spam and 'cat' in spam.values()?
   If a dictionary is stored in spam, the expression 'cat' in spam checks if the key 'cat' exists in the dictionary spam. On the other hand, the expression 'cat' in spam.values() checks if the value 'cat' exists in any of the values in the dictionary spam.

7. What is a shortcut for the following code?
   if 'color' not in spam:
   spam['color'] = 'black'
   One shortcut for the given code is to use the setdefault() method of dictionaries. This line of code checks if the key 'color' is present in the spam dictionary. If it is not, it adds the key 'color' to the dictionary with a default value of 'black'. If the key is already present in the dictionary, setdefault() does nothing and returns the existing value.

8. How do you "pretty print" dictionary values using which module and function?
   To "pretty print" dictionary values, we can use the pprint module's pprint() function. This function pretty prints the output with each key-value pair on a new line and indents nested structures for easier readability.