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

ANS :- {}

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

ANS :- 42

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

ANS :- the key distinctions are: Lists are ordered and accessed by indices, while dictionaries are unordered and accessed by unique keys. Lists store elements, while dictionaries store key-value pairs. Lists allow duplicate values, while dictionaries require unique keys. Lists are accessed using integer indices, while dictionaries are accessed using key.

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

ANS :- If we 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() check for the presence of the key 'cat' in the dictionary spam, but they have a slight difference in their approach.

'cat' in spam: This expression checks whether the key 'cat' exists in the dictionary spam. It searches for the key directly within the dictionary's keys without explicitly calling the keys() method. If the key 'cat' is present in spam, the expression will evaluate to True; otherwise, it will evaluate to False. '

cat' in spam.keys(): This expression explicitly calls the keys() method on the dictionary spam to obtain a list-like view object containing all the keys of the dictionary. It then checks whether the key 'cat' exists within that list-like view. If the key 'cat' is present in the keys of spam, the expression will evaluate to True; otherwise, it will evaluate to False.

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 a difference in what they check within the dictionary spam.

'cat' in spam: This expression checks whether the key 'cat' exists in the dictionary spam. It searches for the key directly within the dictionary's keys. If the key 'cat' is present as a key in spam, the expression will evaluate to True; otherwise, it will evaluate to False.

'cat' in spam.values(): This expression checks whether the value 'cat' exists in the dictionary spam. It searches for the value within the dictionary's values. If the value 'cat' is present in any of the values of spam, the expression will evaluate to True; otherwise, it will evaluate to False.

7. What is a shortcut for the following code?

if 'color' not in spam:

spam['color'] = 'black'

ANS :- The setdefault() method allows us to specify a default value for a key if it doesn't already exist in the dictionary. If the key is present, the method returns its corresponding value. Here's the equivalent code using setdefault():

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

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

ANS :- The pprint() function from the pprint module takes a dictionary (or any other data structure) as input and prints it in a more human-readable format. It provides formatting options to display the dictionary with indentation and line breaks, making it easier to visually comprehend complex nested structures. The pprint() function is particularly useful when dealing with large dictionaries or nested data structures, as it helps improve the readability of the output