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

**Ans:** In Python, an empty dictionary is represented by a pair of curly braces {}

My\_dict={}

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

**Ans**:42

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

**Ans:** The key distinction between a dictionary and a list is that a list stores elements in a specific order and retrieves them by their positions, whereas a dictionary stores key-value pairs without any specific order and retrieves values by their corresponding keys.

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

**Ans:** If we try to access spam['foo'] when spam is {'bar': 100}, you will encounter a KeyError.

In Python, when we use square brackets ([]) to access an element from a dictionary, we need to provide the key of the desired element. In this case, the dictionary spam only contains one key-value pair, where the key is 'bar' and the value is 100. Therefore, attempting to access spam['foo'] will raise a KeyError because the key 'foo' does not exist in the spam dictionary.

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

**Ans:** In Python, if a dictionary is stored in the variable 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.

On the other hand, the expression 'cat' in spam.keys() checks if the key 'cat' exists among the keys of the dictionary spam. It returns True if the key is one of the dictionary's keys and False otherwise.

The difference between the two expressions is that 'cat' in spam checks for the presence of the key directly in the dictionary, while 'cat' in spam.keys() specifically checks if the key is one of the dictionary's keys. The former searches through the values in the dictionary, while the latter searches through the dictionary's keys.

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

**Ans:** 'cat' in spam: This expression checks if the key 'cat' exists in the dictionary spam. It searches for the key among the dictionary's keys, not its values. If 'cat' is a key in spam, the expression will evaluate to True; otherwise, it will evaluate to False.

'cat' in spam.values(): This expression checks if the value 'cat' exists in the dictionary spam. It searches for the value among the dictionary's values, not its keys. If 'cat' is a value in 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:** A shortcut for the given code would be to use the setdefault() method of dictionaries. Here's the modified code using the shortcut.

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

The setdefault() method checks if the specified key ('color' in this case) is present in the dictionary (spam). If the key is not present, it adds the key-value pair to the dictionary with the specified default value ('black' in this case). If the key is already present, it returns the corresponding value without modifying the dictionary. This provides a concise way to achieve the same functionality as the original code.

8.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's pprint function. The pprint module provides a way to format and display complex data structures, such as dictionaries, in a more readable and visually appealing format.

import pprint

my\_dict = {

'name': 'John Doe',

'age': 30,

'occupation': 'Engineer',

'location': 'New York'

}

pprint.pprint(my\_dict)