Assignment -12

Python Sets and Dictionaries Task

Task Description:

Create a class named DataAnalyzer with the following methods:

\_\_init\_\_: Initializes an empty set and an empty dictionary.

Add\_to\_set: Takes a list of elements as a parameter and adds them to the set.

Remove\_from\_set: Takes an element as a parameter and removes it from the set if it exists.

Get\_set: Returns the current state of the set.

Create\_dictionary: Takes two lists of equal length, one for keys and one for values, and creates a dictionary.

Update\_dictionary: Takes a key-value pair and adds it to the dictionary.

Get\_dictionary: Returns the current state of the dictionary.

Search\_dictionary: Takes a key as a parameter and checks if it exists in the dictionary.

Remove\_from\_dictionary: Takes a key as a parameter and removes the corresponding key-value pair from the dictionary if it exists.

->

Here’s the implementation of the `DataAnalyzer` class in Python:

```python

Class DataAnalyzer:

Def \_\_init\_\_(self):

Self.data\_set = set()

Self.data\_dict = {}

Def add\_to\_set(self, elements):

Self.data\_set.update(elements)

Def remove\_from\_set(self, element):

If element in self.data\_set:

Self.data\_set.remove(element)

Def get\_set(self):

Return self.data\_set

Def create\_dictionary(self, keys, values):

Self.data\_dict = dict(zip(keys, values))

Def update\_dictionary(self, key, value):

Self.data\_dict[key] = value

Def get\_dictionary(self):

Return self.data\_dict

Def search\_dictionary(self, key):

Return key in self.data\_dict

Def remove\_from\_dictionary(self, key):

If key in self.data\_dict:

Del self.data\_dict[key]

```

You can use this class to analyze data using sets and dictionaries according to the provided methods. For example:

```python

Da = DataAnalyzer()

Da.add\_to\_set([1, 2, 3])

Print(da.get\_set()) # Output: {1, 2, 3}

Da.remove\_from\_set(2)

Print(da.get\_set()) # Output: {1, 3}

Da.create\_dictionary([‘a’, ‘b’, ‘c’], [1, 2, 3])

Print(da.get\_dictionary()) # Output: {‘a’: 1, ‘b’: 2, ‘c’: 3}

Da.update\_dictionary(‘d’, 4)

Print(da.get\_dictionary()) # Output: {‘a’: 1, ‘b’: 2, ‘c’: 3, ‘d’: 4}

Print(da.search\_dictionary(‘b’)) # Output: True

Da.remove\_from\_dictionary(‘c’)

Print(da.get\_dictionary()) # Output: {‘a’: 1, ‘b’: 2, ‘d’: 4}

```