tuple

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1 Q1. What are the characteristics of the tuples? Is tuple immutable?

tuples are immutable, meaning you cannot change their contents after they are created. The length of tuples is also fixed. They remain the same length throughout the lifecycle of the program.

2 Q2. What are the two tuple methods in python? Give an example of each method. Give a reason why tuples have only two in-built methods as compared to Lists.

Python Tuple Methods Method Description count() Returns the number of times a specified value occurs in a tuple index() Searches the tuple for a specified value and returns the position of where it was found

3 Q3. Which collection datatypes in python do not allow duplicate items? Write a code using a set to remove duplicates from the given list.

4 List = [1, 1, 1, 2, 1, 3, 1, 4, 2, 1, 2, 2, 2, 3, 2, 4, 3, 1, 3, 2, 3, 3, 3, 4, 4, 1, 4, 2, 4, 3, 4, 4]

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[7]: lists = [1, 1, 1, 2, 1, 3, 1, 4, 2, 1, 2, 2, 2, 3, 2, 4, 3, 1, 3, 2, 3, 3, 3,
      ↪4, 4, 1, 4, 2, 4, 3, 4, 4]
     myset = set()
     print("List:", lists)
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List: [1, 1, 1, 2, 1, 3, 1, 4, 2, 1, 2, 2, 2, 3, 2, 4, 3, 1, 3, 2, 3, 3, 3, 4,
4, 1, 4, 2, 4, 3, 4, 4]
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[8]: for item in lists:
         myset.add(item)
     print("Set:", myset)
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Set: {1, 2, 3, 4}
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5 Q4. Explain the difference between the union() and update() methods for a set. Give an example of each method

It is very similar to union() method, with difference is that where union() method create and return a new set, containing all the elements (distinct) present in all the iterables, update() method updates the set on which this method is called with all the distinct elements present in all the iterables.

6 Q5. What is a dictionary? Give an example. Also, state whether a dictionary is ordered or unordered

dictionary is an unordered collection that contains key:value pairs separated by commas inside curly brackets. Dictionaries are optimized to retrieve values when the key is known. capitals = {"USA":"Washington D.C.", "France":"Paris", "India":"New Delhi"} print(type(capitals)) #output: <class 'dict'>

7 Q6. Can we create a nested dictionary? If so, please give an example by creating a simple one-level nested dictionary.

Nesting Dictionary means putting a dictionary inside another dictionary. Nesting is of great use as the kind of information we can model in programs is expanded greatly.

nested_dict = {'dict1': {'key_A': 'value_A'}, 'dict2': {'key_B': 'value_B'}}

8 Q8. What are the three view objects in dictionaries? Use the three in-built methods in python to display these three view objects for the given dictionary.

9 dict1 = {'Sport': 'Cricket' , 'Teams': ['India', 'Australia', 'England', 'South Africa', 'Sri Lanka', 'New Zealand']

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[10]: dict1 = {'Sport': 'Cricket' , 'Teams': ['India', 'Australia', 'England', 'South
      ↪Africa', 'Sri Lanka', 'New Zealand']}
```

```
[11]: dict1
```

```
[11]: {'Sport': 'Cricket',
       'Teams': ['India',
        'Australia',
        'England',
        'South Africa',
        'Sri Lanka',
        'New Zealand']}
```

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[ ]:
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