PW assignment

March 6, 2023

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'''
1.What are the characteristics of the tuples? Is tuple immutable?
Tuples are an ordered collection of elements of different data types. These are␣
 ↪represented inside the normal brackets.

They are indexed.
Tuples are ordered.
They can contain duplicate items.

and YES, These are immutable.
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'''
2.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.

count(): This method returns the number of occurrences of a particular element␣
 ↪in the tuple.

index(): This method returns the index of the first occurrence of a particular␣
 ↪element in the tuple.
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[1]:
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T = (1, 2, 3, 4, 4, 5, 4)
count_of_4 = T.count(4)
print(count_of_4)
```

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[2]:
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my_tuple = (1, 2, 3, 4, 4, 5, 4)
index_of_4 = my_tuple.index(4)
print(index_of_4)
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3.Which collection datatypes in python do not allow duplicate items? Write a␣
 ↪code using a set to remove
duplicates from the given list.
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]

ANS : Sets do not allow duplicare items in it.
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[3]:
```
my_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]
my_set = set(my_list)
new_list = list(my_set)
print(new_list)
```

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[1, 2, 3, 4]
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4. Explain the difference between the union() and update() methods for a set.␣
 ↪Give an example of
each method.

union() method: The union() method returns a new set that contains all the␣
 ↪unique elements present in the original set(s) as well as the set(s) passed␣
 ↪as arguments to the union() method.
update() method: The update() method modifies the original set by adding all␣
 ↪the unique elements from the set(s) passed as an argument to the update()␣
 ↪method.
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[4]:
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s1={12,3,45,5,6}
s2={12,4,5,7,8,9}
union_set=s1.union(s2)
print(union_set)
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{3, 4, 5, 6, 7, 8, 9, 12, 45}
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[5]:
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s1={12,3,45,5,6}
s2={12,4,5,7,8,9}
s1.update(s2)
print(s1)
```

```
{3, 4, 5, 6, 7, 8, 9, 12, 45}
```

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5.What is a dictionary? Give an example. Also, state whether a dictionary is␣
 ↪ordered or unordered.
ANS : It is a collection of data which consists key and value pairs.
{"name":"joswin","class":"data sceince", "email:"joswin@gmail.com"}
These are ordered.
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'''
6. Can we create a nested dictionary? If so, please give an example by creating␣
 ↪a simple one-level
nested dictionary.
Yes we can use nested dictionary.
Eg : nested_dict = {'fruit': {'apple': 2, 'banana': 3, 'orange': 1}}
print(nested_dict)
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'''
7.Using setdefault() method, create key named topics in the given dictionary␣
 ↪and also add the value of
the key as this list ['Python', 'Machine Learning', 'Deep Learning']
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[11]:
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dict1 = {'language' : 'Python', 'course': 'Data Science Masters'}
dict1.setdefault('topics', ['Python','Machine Learning', 'deep learning'])

print(dict1)
```

```
{'language': 'Python', 'course': 'Data Science Masters', 'topics': ['Python',
'Machine Learning', 'deep learning']}
```

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'''
8.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.
dict1 = {'Sport': 'Cricket' , 'Teams': ['India', 'Australia', 'England', 'South␣
 ↪Africa', 'Sri Lanka', 'New Zealand']}
'''
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[14]:
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dict1 = {'Sport': 'Cricket' , 'Teams': ['India', 'Australia', 'England', 'South␣
 ↪Africa', 'Sri Lanka', 'New Zealand']}
```

[16]:
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keys_view = dict1.keys()
keys_view
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[16]:
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dict_keys(['Sport', 'Teams'])
```

[17]:
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values_view = dict1.values()
values_view
```

[17]:
```
dict_values(['Cricket', ['India', 'Australia', 'England', 'South Africa', 'Sri Lanka', 'New Zealand']])
```

[18]:
```
items_view = dict1.items()
items_view
```

[18]:
```
dict_items([('Sport', 'Cricket'), ('Teams', ['India', 'Australia', 'England', 'South Africa', 'Sri Lanka', 'New Zealand'])])
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