

dictionary Ⓢ.

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## 8.12 Summary

- Tuple is an immutable data structure comprising of items that are ordered and heterogeneous.
- Tuples are formed using commas and not the parenthesis.
- Indexing and slicing of items are supported in tuples.
- Tuples support built-in functions such as len(), min(), and max().
- The set stores a collection of unique values and are not placed in any particular order.
- Add an item to the set using add() method and remove an item from the set using the remove() method.
- The for loop is used to traverse the items in a set.
- The issubset() or issuperset() method is used to test whether a set is a superset or subset of another set.
- Sets also provide functions such as union(), intersection(), difference(), and symmetric\_difference().

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## Multiple Choice Questions

1. Which of the following is a mutable type?
  - a. Strings
  - b. Lists
  - c. Tuples
  - d. Frozenset

2. What will be the output of the following code?

```
t1 = (1, 2, 3, 4)  
t1.append(5, 6, 7)  
print(len(t1))
```

a. Error

b. 2

c. 1

d. 5

3. What is the correct syntax for creating a tuple?

- a. ["a", "b", "c"]
- b. ('a', 'b', 'c')
- c. ("a", "b", "c")
- d. ()

4. Assume air\_force = ("f15", "f22a", "f35a"). Which of the following is incorrect?

- a. print(air\_force[2])
- b. air\_force[2] = 42
- c. print(max(air\_force))
- d. print(len(air\_force))

5. Gauge the output of the following code snippet.

```
bike = ('d', 'u', 'c', 'a', 't', 't')
```

```
bike [1:3]
```

- a. ('u', 'c')
- b. ('u', 'c', 'c')
- c. ('d', 'u', 'c')
- d. ('a', 't', 't')

6. What is the output of the following code?

```
colors = ("v", "Y", "b", "g", "y", "o", "r")  
for i in range(0, len(colors), 2):  
    print(colors[i])
```

- a. ('Y', 'b')
- b. ('v', 'Y', 'b')
- c. ['v', 'b', 'y', 'r']
- d. ('Y', 'g', 'o')

7. What is the output of the following code snippet?

```
colors = ("v", "Y", "b", "g", "y", "o", "r")  
2 * colors  


- a. ['v', 'Y', 'b', 'g', 'y', 'o', 'r']
- b. ('v', 'Y', 'b', 'g', 'y', 'o', 'r')
- c. ('v', 'v', 'Y', 'Y', 'b', 'b', 'g', 'g', 'y', 'y', 'o', 'o', 'r', 'r')
- d. ('v', 'Y', 'b', 'g', 'y', 'o', 'r', 'v', 'Y', 'b', 'g', 'y', 'o', 'r')

```

8. Predict the output of the following code.

```
os = ('w', 'i', 'n', 'd', 'o', 'w', 's')
os1 = ('w', 'i', 'n', 'd', 'w', 's', 'o')
os < os1
```

a. True

b. False

c. 1

d. 0

9. What is the data type of (3)?

a. Tuple

b. List

c. None

d. Integer

10. Assume tuple\_1 = (7,8,9,10,11,12,13) then the output of tuple\_1[1:-1] is.

a. Error

b. (8,9,10,11,12)

c. [8,9,10,11,12]

d. None

11. What might be the output of the following code:

```
A = ("hello") * 3
```

```
print(A)
```

a. Operator Error

b. ('hello','hello','hello')

c. 'hellohellohello'

d. None of these

12. What is the output of the following code:

```
number_1 = {1,2,3,4,5}
```

```
number_2 = {1,2,3}
```

```
number_1.difference(number_2)
```

a. {4, 5}

b. {1, 2, 3}

c. (4, 5)

d. [4, 5]

13. Judge the output of the following code:

```
tuples = (7,8,9)
```

```
sum(tuples, 2)
```

a. 36

b. 30

c. 12

d. 3

14. `tennis = ('steffi', 'monica', 'serena', 'monica', 'navratilova')`  
`tennis.count('monica')`

- a. 3
- b. 0
- c. 2
- d. 1

15. A set is an \_\_\_\_\_ collection with no \_\_\_\_\_ items.

- a. unordered, duplicate
- b. ordered, unique
- c. unordered, unique
- d. ordered, duplicate

16. Judge the output of the following:

```
sets_1 = set(['a','b','b','c','c','d'])  
len(sets_1)
```

- a. 1
- b. 4
- c. 5
- d. 7

17. What is the output of the code shown below?

```
s = {1,2,3}  
s.update(4)  
print(s)
```

- a. {1,2,3,4}
- b. {1,2}
- c. {1,2,3}
- d. Error

18. Tuple unpacking requires

- a. an equal number of variables on the left side to the number of items in the tuple.
- b. greater number of variables on the left side to the number of items in the tuple.
- c. less number of variables on the left side to the number of items in the tuple.
- d. Does not require any variables.

19. The statement that is used to create an empty set is

- a. {}
- b. set()
- c. []
- d. ()

20. The \_\_\_\_\_ functions removes the first element of the set
- remove()
  - delete()
  - ✓ pop()
  - truncate()
21. The method that returns a new set with items common to two sets is
- isdisjoint()
  - ✓ intersection()
  - symmetric\_difference()
  - union()
22. What is the output of the following code snippet?

```
s1 = {'a','b','c'}  
s2 = {'d'}  
print(s1.union(s2))
```

- {'c', 'd', 'b', 'a'}
- {'a', 'b', 'c', 'd'}
- {'b', 'c', 'd', 'a'}
- {'d', 'a', 'b', 'c'}

23. The function that makes a sequence by aggregating the elements from each of the iterables is
- remove()
  - update()
  - frozenset()
  - ✓ zip()

24. Predict the output of the following code:

```
even = {2, 4, 6}  
odd = {1, 5, 7 }  
even.isdisjoint(odd)  
odd.isdisjoint(even)
```

- True False
- False True
- ✓ True True
- False False

25. Which of the following code snippet returns symmetric difference between two sets

- ✓  $x \Delta y$
- $x \& y$
- $x | y$
- $x - y$