

1. A set is a container that stores a collection of:

1. lists
2. unique values
3. models
4. operations

Title

What is stored in a set?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-01

2. One key difference between a set and a list is:

1. Set elements are not stored in any particular order
2. List elements are not stored in any particular order
3. Set elements can be accessed directly using their position
4. List elements only contain string values

Title

What is an example of a difference between list and set?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-02

3. Which statement correctly creates a set named `colors` that contains the 7 colors in a rainbow?

1. `colors = ["red", "orange", "yellow", "green", "blue", "indigo", "violet"]`
2. `colors = {red, orange, yellow, green, blue, indigo, violet}`
3. `colors = [red, orange, yellow, green, blue, indigo, violet]`
4. `colors = {"red", "orange", "yellow", "green", "blue", "indigo", "violet"}`

Title

Which statement correctly creates a set named `colors` that contains the 7 colors in a rainbow?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-03

4. Which statement correctly creates a set named `rainbow` that contains the 7 colors in a rainbow?

1. `colors = ["red", "orange", "yellow", "green", "blue", "indigo", "violet"]
rainbow = set(colors)`
2. `colors = {red, orange, yellow, green, blue, indigo, violet}
rainbow = colors`
3. `colors = [red, orange, yellow, green, blue, indigo, violet]
rainbow = set(colors)`
4. `colors = {"red", "orange", "yellow", "green", "blue", "indigo", "violet"}
rainbow = colors.set`

Title

Which statement correctly creates a set named `rainbow` that contains the 7 colors in a rainbow?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-04

5. Which statement correctly creates an empty set `flags`?

1. `flags = {}`
2. `flags = set{}`
3. `flags = set()`
4. `flags = null`

Title

Which statement correctly creates an empty set `flags`?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-05

6. Which statement correctly identifies the number of elements in the set `flags`?

1. `numflags = flags.size()`
2. `numflags = flags.len()`
3. `numflags = len(flags)`
4. `numflags = size(flags)`

Title

Which statement correctly identifies the number of elements in the set `flags`?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-06

7. Which of the following code segments prints `red` is a color of the rainbow when the set `colors` contains the string `"red"`?

1. if `colors` contains `"red"` :
 `print("red is a color of the rainbow")`

2. if `"red"` in `colors` :
 `print("red is a color of the rainbow")`

3. if `"red"` not in `colors` :
 `print("red is a color of the rainbow")`

4. if `colors` includes `"red"` :
 `print("red is a color of the rainbow")`

Title

How can you search for an element in a set?

type

mc

Section

8.1 Sets

id

testbank-py-2-ch08-07

from

testbank-py-1-ch08-07

8. How can you print all the elements in the set `colors` each on a separate line?

1. for `i` in `range(len(colors))` :
 `print(colors[i])`

2. for `color` in `colors` :
 `print(color)`

3. `print(colors)`

4. for `i` in `range(0, len(colors))` :
 `print(colors[i])`

Title

How can you print all elements in a set, each on a separate line?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-08

9. In what order are the elements of a set visited when the set is traversed using a `for` loop?
1. sorted in ascending order
 2. sorted in descending order
 3. the order in which they were added
 4. random order

Title

In what order are the elements of a set visited when the set is traversed using a `for` loop?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-09

10. How can you make sure the elements in a set will be printed in sorted order?
1. Add the elements to the set in sorted order before printing the set
 2. Use the `in` operator before printing the set
 3. Use the `sort` method before printing the set
 4. Use the `sorted` function when printing the set

Title

How can you make sure the elements in a set are printed in sorted order?

type

mc

Section

8.1 Sets

id

testbank-py-2-ch08-10

from

testbank-py-1-ch08-10

11. Which statement(s) below print the set `colors` in sorted order?

1.

```
for i in range(len(colors)) :
    print(colors[i])
```
2.

```
for color in sorted(colors) :
    print(color)
```
3.

```
for color in colors.sorted() :
    print(color)
```
4.

```
for i in range(len(colors)) :
    print(sorted(colors[i]))
```

Title

How can you make sure the elements in a set are printed in sorted order?

type

mc
 Section
 8.1 Sets
 id
 testbank-py-1-ch08-11

12. Which of the following is a possible output after the following code snippet is executed?

```
names = set(["Jane", "Joe", "Amy", "Lisa"])
names.add("Amber")
names.add("Zoe")
names.discard("Joe")
print(names)
```

1. {'Amy', 'Lisa', 'Jane', 'Zoe', 'Amber'}
2. {'Jane', 'Joe', 'Amy', 'Lisa', 'Amber', 'Zoe'}
3. {'Jane', 'Joe', 'Amy', 'Lisa'}
4. {'Jane', 'Joe', 'Amy', 'Lisa', 'Amber'}

Title
 What is printed after the following code snippet is executed?
 type
 mc
 Section
 8.1 Sets
 id
 testbank-py-1-ch08-12

13. Which of the following is a possible output after the following code snippet is executed?

```
names = set(["Jane", "Joe", "Amy", "Lisa"])
names.add("Amber")
names.add("Zoe")
names.discard("Jim")
print(names)
```

1. An exception is raised
2. {'Jane', 'Lisa', 'Joe', 'Amy', 'Amber', 'Zoe'}
3. {'Amy', 'Lisa', 'Jane', 'Zoe', 'Amber'}
4. {'Jane', 'Joe', 'Amy', 'Lisa', 'Amber', 'Zoe', 'Jim'}

Title
 What is printed after the following code snippet is executed?
 type
 mc
 Section
 8.1 Sets
 id

testbank-py-1-ch08-13

14. What is printed after the following code snippet is executed?

```
names = set(["Jane", "Joe", "Amy", "Lisa"])
names.add("Amber")
names.add("Zoe")
names.remove("Jim")
print(names)
```

1. An exception is raised
2. {'Jane', 'Lisa', 'Joe', 'Amy', 'Amber', 'Zoe'}
3. {'Amy', 'Lisa', 'Jane', 'Zoe', 'Amber'}
4. {'Jane', 'Joe', 'Amy', 'Lisa', 'Amber', 'Zoe', 'Jim'}

Title

What is printed after the following code snippet is executed?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-14

15. What is printed when the following code snippet executes?

```
names = set(["Jane", "Joe", "Amy", "Lisa"])
names.add("Amber")
names.add("Zoe")
names.clear()
print(names)
```

1. An error message indicating that an exception was raised.
2. {'Jane', 'Lisa', 'Joe', 'Amy', 'Amber', 'Zoe'}
3. {'Amy', 'Lisa', 'Jane', 'Zoe', 'Amber'}
4. set()

Title

What is printed by a code snippet involving sets?

type

mc

Section

8.1 Sets

id

testbank-py-2-ch08-15

from

testbank-py-1-ch08-15

16. In the following code snippet, what is true about these sets?

```
names = set(["Jane", "Joe", "Amy", "Lisa"])
names1 = set(["Joe", "Amy", "Lisa"])
names2 = set(["Jane", "Joe"])
```

1. names2 is a subset of names
2. names2 is not a subset of names
3. names2 is an intersection of the set names and names1
4. names2 is a union of names and names1

Title

In the following code snippet, what is true about these sets?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-16

17. Given the following code snippet, which statement tests to see if names2 is a subset of names?

```
names = set(["Jane", "Joe", "Amy", "Lisa"])
names2 = set(["Jane", "Joe"])
```

1. if names2.issubset(names) :
 print(names2)
2. if names2 isA subset(names) :
 print(names2)
3. if names2.subset(names) :
 print(names2)
4. if names.subset(names2) :
 print(names2)

Title

Which statement tests to see if one set is a subset of another set?

type

mc

Section

8.1 Sets

id

testbank-py-2-ch08-17

from

testbank-py-1-ch08-17

18. Given the following code snippet, which statement tests to see if all three sets are equal?

```
fruit = set(["apple", "banana", "grapes", "kiwi"])
fruit2 = set(["apple", "banana", "grapes", "kiwi"])
fruit3 = set(["apple", "banana", "pears", "kiwi"])
```

1. if fruit.equal(fruit2) and fruit.equal(fruit3) :
2. if fruit == fruit2 and fruit == fruit3 :
3. if fruit != fruit2 and fruit != fruit3 :
4. if fruit == fruit2 or fruit == fruit3 :

Title

Given the following code snippet, which statement tests to see if all three sets are equal?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-18

19. What is printed by the following code snippet?

```
fruit = set(["apple", "banana", "grapes", "kiwi"])
fruit2 = set(["apple", "banana", "grapes"])
fruit3 = set(["apple", "banana", "pears", "kiwi"])
if fruit2.issubset(fruit) :
    print("fruit2 is a subset of fruit")
if fruit == fruit3 :
    print("fruit and fruit3 are equal")
if fruit != fruit2 :
    print("fruit and fruit2 are not equal")
```

1. fruit2 is a subset of fruit
fruit and fruit3 are equal
fruit and fruit2 are not equal
2. fruit2 is a subset of fruit
3. fruit2 is a subset of fruit
fruit and fruit2 are not equal
4. fruit and fruit2 are not equal

Title

What is printed by the following code snippet?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-19

20. Consider the following code segment:

```
names = set(["Jane", "Joe", "Amy", "Lisa"])
names1 = set(["Joe", "Amy", "Lisa", "Bob"])
names2 = set(["Joe", "Amy", "Lisa"])
```


Which of the following statements is true?

1. names1 is a subset of names
2. names2 is a subset of names
3. names is the intersection of the sets names1 and names2
4. names is the union of names1 and names2

Title

Which of the follow statements about sets is true?

type

mc

Section

8.1 Sets

id

testbank-py-2-ch08-20

from

testbank-py-1-ch08-20

21. What is in the set `fruit` after the following code snippet?

```
fruit2 = set(["blueberry", "lemon", "grapes"])
fruit3 = set(["apple", "banana", "pears", "kiwi"])
fruit = fruit2.union(fruit3)
```

1. {'blueberry', 'lemon', 'grapes', 'apple', 'banana', 'pears', 'kiwi'}
2. {'blueberry', 'lemon', 'grapes'}
3. {}
4. {'apple', 'banana', 'pears', 'kiwi'}

Title

What is in the set `fruit` after the following code snippet?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-21

22. What method can be used to combine two sets in Python?

1. `subset()`
2. `union()`
3. `join()`
4. `both()`

Title

What method can be used to combine two sets in Python?

type

mc
 Section
 8.1 Sets
 id
 testbank-py-1-ch08-22

23. What method is used to test if one set is contained entirely within another set in Python?

1. `issubset()`
2. `isintersection()`
3. `inboth()`
4. `difference()`

Title
 What method is used to test if one set is contained entirely within another set in Python?
 type
 mc
 Section
 8.1 Sets
 id
 testbank-py-1-ch08-23

24. What method is used to produce a new set with the elements that are contained in both sets?

1. `subset()`
2. `intersection()`
3. `inboth()`
4. `difference()`

Title
 What method is used to produce a new set with the elements that are contained in both sets?
 type
 mc
 Section
 8.1 Sets
 id
 testbank-py-1-ch08-24

25. What method is used to produce a new set with the elements that belong to the first set but not the second?

1. `subset()`
2. `intersection()`
3. `inboth()`

4. `difference()`

Title

What method is used to produce a new set with the elements that belong to the first set but not the second?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-25

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

```
fibonacci = {1, 1, 2, 3, 5, 8}
primes = {2, 3, 5, 7, 11}
both = fibonacci.intersection(primes)
print(both)
```

1. {1, 2, 3, 5, 8}
2. {1, 2, 3, 5, 7, 8, 11}
3. {2, 3, 5}
4. {}

Title

What is the output of the following code snippet?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-26

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

```
fibonacci = {1, 1, 2, 3, 5, 8}
primes = {2, 3, 5, 7, 11}
both = fibonacci.union(primes)
print(both)
```

1. {1, 2, 3, 5, 8}
2. {1, 2, 3, 5, 7, 8, 11}
3. {2, 3, 5}
4. {}

Title

What is the output of the following code snippet?

type

mc
 Section
 8.1 Sets
 id
 testbank-py-1-ch08-27

28. What values will be in the set `both` after the following code snippet runs?

```
fibonacci = {1, 1, 2, 3, 5, 8}
primes = {2, 3, 5, 7, 11}
both = fibonacci.difference(primes)
print(both)
```

1. 2, 3, 5, 7, 11
2. 1, 2, 3, 5, 7, 8, 11
3. 1, 8
4. None (the set is empty)

Title
 What is the output of the following code snippet involving a set difference operation?

type
 mc
 Section
 8.1 Sets
 id
 testbank-py-2-ch08-28
 from
 testbank-py-1-ch08-28

29. Which statement creates an empty set and stores it in `x`?

1. `x = ()`
2. `x = []`
3. `x = {}`
4. `x = set()`

Title
 Which statement creates an empty set?

type
 mc
 Section
 8.1 Sets
 id
 testbank-py-1-ch08-29

30. Which statement creates a set of 3 elements and stores it in `x`?

1. `x = [1, 2, 3]`
2. `x = {1, 2, 3}`
3. `x = (1, 2, 3)`
4. `x = set(1, 2, 3)`

Title

Which statement creates a set of 3 elements?

type

mc

Section

8.1 Sets

id

testbank-py-2-ch08-30

from

testbank-py-1-ch08-30

31. What is the value of `x` after the following code segment executes?

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

```
x.add(1)
```

1. {1, 2, 3}
2. {1, 1, 2, 3}
3. {}
4. `x` has no value because a runtime error occurs

Title

Trace code that adds to a set

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-31

32. Assume that `x` is initially the set {1, 2, 3}. Which statement results in `x` being the empty set?

1. `x.discard()`
2. `x.remove(1, 2, 3)`
3. `x.clear()`
4. `x.empty()`

Title

What statement results in an empty set?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-32

33. What is the value of `x` after the following code segment executes?

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

```
x.discard(4)
```

1. {}
2. {1, 2, 3}
3. {1, 2, 3, 4}

4. The program terminates with a runtime error

Title

Trace code that involving the discard method

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-33

34. Consider the following code segment:

```
primes = {2, 3, 5, 7}
odds = {1, 3, 5, 7}
x = primes.issubset(odds)
```

What value will be stored in `x` after it has executed?

1. 0
2. 1
3. False
4. True

Title

Trace code involving the issubset method

type

mc

Section

8.1 Sets

id

testbank-py-2-ch08-34

from

testbank-py-1-ch08-34

35. Consider the following code segment:

```
primes = {2, 3, 5, 7}
odds = {1, 3, 5, 7}
```

Which line of code will result in `x` containing `{1, 2, 3, 5, 7}`?

1. `x = primes.difference(odds)`
2. `x = primes.intersection(odds)`
3. `x = primes.merge(odds)`
4. `x = primes.union(odds)`

Title

Which line of code stores the desired set into `x`?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-35

36. What is stored in `x` at the end of this code segment?

```
primes = {2, 3, 5, 7}
odds = {1, 3, 5, 7}
x = primes.intersection(odds)
```

1. {}
2. {1, 2}
3. {3, 5, 7}
4. {1, 2, 3, 5, 7}

Title

Trace code involving set intersection

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-36

37. Consider the following code segment:

```
primes = {2, 3, 5, 7}
odds = {1, 3, 5, 7}
```

Which line of code will result in `x` containing `{1}`?

1. `x = odds.difference(primes)`
2. `x = odds.intersection(primes)`
3. `x = primes.difference(odds)`
4. `x = primes.intersection(odds)`

Title

Which line of code stores the desired set into `x`?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-37

38. Which statement is most correct?

1. A Python dictionary contains a list of all of Python's reserved words.
2. A Python dictionary stores associations between keys and values.
3. Each value in a Python dictionary must be unique.
4. Every value in a Python dictionary must have the same data type.

Title

Which statement about Python dictionaries is most correct?

type

mc

Section

8.2 Dictionaries

id

testbank-py-2-ch08-38

from

testbank-py-1-ch08-38

39. Which of the following statements creates a dictionary of favorite foods?

1. favoriteFoods = {"burgers", "hotdogs", "apple pie"}
2. favoriteFoods = {"Peg": "burgers", "Cy": "hotdogs", "Bob": "apple pie"}
3. favoriteFoods = {"Peg", "Cy", "Bob" : "burgers", "hotdogs", "apple pie"}
4. favoriteFoods = {"Peg", "burgers", "Cy", "hotdogs", "Bob", "apple pie"}

Title

Which of the following statements creates a dictionary of favorite foods?

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-39

40. Which of the following statements creates a duplicate copy of the favoriteFoods dictionary?

1. favoriteFoods2 = copy(favoriteFoods)
2. favoriteFoods2 = dict(favoriteFoods)
3. favoriteFoods2 = duplicate(favoriteFoods)
4. favoriteFoods2 = favoriteFoods

Title

Which statement creates a duplicate copy of a dictionary?

type

mc

Section

8.2 Dictionaries

id

testbank-py-2-ch08-40

from

testbank-py-1-ch08-40

41. Consider the following dictionary:

```
favoriteFoods = {"Peg": "burgers", "Cy": "hotdogs", "Bob": "apple pie"}
```

What statement will print Peg's favorite food?

1. print("Peg's favorite food is: ", favoriteFoods.get(1))
2. print("Peg's favorite food is: ", favoriteFoods(Peg))
3. print("Peg's favorite food is: ", favoriteFoods["Peg"])
4. print("Peg's favorite food is: ", favoriteFoods[1])

Title
What statement prints a value stored in a dictionary?
type
mc
Section
8.2 Dictionaries
id
testbank-py-2-ch08-41
from
testbank-py-1-ch08-41

42. How can you access a value stored in a dictionary?
1. A value can only be accessed using a sequential search
 2. A value can only be accessed using its associated key
 3. A value can only be accessed using its index
 4. A value can only be accessed using the `in` operator

Title
How can you access a value stored in a dictionary?
type
mc
Section
8.2 Dictionaries
id
testbank-py-2-ch08-42
from
testbank-py-1-ch08-42

43. Consider the following code segment:

```
data = {"A": 65, "B": 66, "C": 67}
print(data["Z"])
```

What will be displayed when this code segment executes?

1. -1
2. 0
3. {}
4. An error message indicating that an exception was raised.

Title
What happens when you try to read from a key that is not present in a dictionary?
type
mc
Section
8.2 Dictionaries
id
testbank-py-2-ch08-43
from
testbank-py-1-ch08-43

44. Which operator tests to see if a key exists in a dictionary?

1. `in`
2. `contains`
3. `has`
4. `issubset`

Title

Which operator tests to see if a key exists in a dictionary?

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-44

45. Which of the following statements stores `seafood` in the `food` variable if `Joe` is **not** a key in the `favoriteFoods` dictionary?

1. `food = favoriteFoods.get("Joe", "seafood")`
2. `food = favoriteFoods.get(["Joe"], "seafood")`
3. `food = favoriteFoods(["Joe"], "seafood")`
4. `food = favoriteFoods.get("seafood", "Joe")`

Title

Which statement returns a default value when attempting to retrieve a value for a key that is not present in a dictionary?

type

mc

Section

8.2 Dictionaries

id

testbank-py-2-ch08-45

from

testbank-py-1-ch08-45

46. How do you add items to a dictionary?

1. `add` method
2. `[]` operator
3. `{}` operator
4. `insert` method

Title

How do you add items to a dictionary?

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-46

47. You are creating a program that includes a dictionary where the keys are people's names and the values are their favorite foods. Which of the following statements adds an entry to the dictionary that indicates that Ravi's favorite food is chocolate?

1. `favoriteFoods["Ravi"] = "chocolate"`
2. `favoriteFoods.add("Ravi", "chocolate")`
3. `favoriteFoods = {"Ravi", "chocolate"}`
4. `favoriteFoods["Ravi"] = "chocolate"`

Title

How do you add an item to a dictionary?

type

mc

Section

8.2 Dictionaries

id

testbank-py-2-ch08-47

from

testbank-py-1-ch08-47

48. How do you remove items from a dictionary?

1. `remove` method
2. `pop` method
3. `delete` method
4. `get` method

Title

How do you remove items from a dictionary?

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-48

49. Which of the following code segments displays the favoriteFoods dictionary in alphabetical order by name?

```
favoriteFoods = {"Peg": "burgers", "Cy": "hotdogs", "Bob": "apple pie"}
```

1. `print(favoriteFoods)`
2. `for name in sorted(favoriteFoods) :`
`print(name, favoriteFoods[name])`
3. `for name in (favoriteFoods) :`
`print(name, favoriteFoods[name])`
4. `for name in favoriteFoods.sort() :`
`print(name, favoriteFoods[name])`

Title

Which of the code segments displays a dictionary in alphabetical order by key?

type
mc
Section
8.2 Dictionaries
id
testbank-py-1-ch08-49

50. Which code segment creates a dictionary with keys that are integers and values that are lists?

1. `cards = dict()
cards.add("Ace", "Spades", 1)
cards.add("Two", "Spades", 2)`
2. `cards = dict()
cards[1] = ["Ace", "Spades"]
cards[2] = ["Two", "Spades"]`
3. `cards = dict()
cards = {"Ace", "Spades", 1)
cards = {"Two", "Spades", 2)`
4. `cards = dict()
cards.put("Ace", "Spades", 1)
cards.put("Two", "Spades", 2)`

Title
Which code segment creates a dictionary with keys that are integers and values that are lists?
type
mc
Section
8.2 Dictionaries
id
testbank-py-2-ch08-50
from
testbank-py-1-ch08-50

51. What is printed by the following code segment?

- ```
x = dict()
print(x)
```
1. `{}`
  2. `dict()`
  3. Nothing is printed
  4. The program terminates with a runtime error

Title  
Trace code involving a dictionary  
type  
mc  
Section  
8.2 Dictionaries

id

testbank-py-1-ch08-51

52. Which of the following statements creates a dictionary with 4 entries?

1. `x = {4}`
2. `x = dict(4)`
3. `x = {"A": 1, "B": 2}`
4. `x = {"A": 1, "B": 2, "C": 3, "D": 4}`

Title

Which statement creates a dictionary with 4 keys?

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-52

53. What are the keys in the following dictionary?

```
fruit = {"Apple": "Green", "Banana": "Yellow"}
```

1. Apple and Banana
2. Green and Yellow
3. Apple, Green, Banana and Yellow
4. The dictionary does not have any keys

Title

What are the keys in a dictionary?

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-53

54. What are the values in the following dictionary?

```
numbers = {1: 5.5, 2.0: 77, 3: 33}
```

1. 1, 2.0 and 3
2. 5.5, 77 and 33
3. 1, 77, 3 and 33
4. 1, 5.5, 2.0, 77, 3 and 33

Title

What are the values in a dictionary?

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-54

55. Consider the following code segment:

```
fruit = {"Apple": "Green", "Banana": "Yellow"}
fruit["Plum"] = "Purple"
```

After it executes, what is the value of `fruit`?

1. {"Apple": "Green", "Banana": "Yellow"}
2. {"Apple": "Green", "Banana": "Yellow", "Plum": "Purple"}
3. {"Apple": "Green", "Banana": "Yellow", "Purple": "Plum"}
4. The `fruit` dictionary has no value because the program terminates with a runtime error

Title

Trace code that uses the subscript operator on a dictionary

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-55

56. Consider the following code segment:

```
fruit = {"Apple": "Green", "Banana": "Yellow"}
fruit["Apple"] = "Red"
```

After it executes, what is the value of `fruit`?

1. {"Apple": "Green", "Banana": "Yellow"}
2. {"Apple": "Red", "Banana": "Yellow"}
3. {"Apple": "Green", "Banana": "Yellow", "Apple": "Red"}
4. The `fruit` dictionary has no value because the program terminates with a runtime error

Title

Trace code that uses the subscript operator on a dictionary

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-56

57. Which of the following statements checks to see if the key `Apple` is already in the dictionary `fruit`?

1. `if "Apple" in fruit :`
2. `if "Apple".in(fruit) :`
3. `if fruit in "Apple" :`
4. `if fruit.contains("Apple") :`

Title

Which statement checks to see if a key is in the dictionary?

type  
mc  
Section  
8.2 Dictionaries  
id  
testbank-py-1-ch08-57

58. Assume that a dictionary has been initialized as shown below:

```
fruit = {"Apple": "Green", "Banana": "Yellow", "Plum": "Purple"}
```

Which statement prints the color of a banana?

1. `print(fruit."Banana")`
2. `print(fruit["Banana"])`
3. `print(fruit{"Banana"})`
4. `print(fruit("Banana"))`

Title  
Which statement displays a value in the dictionary?  
type  
mc  
Section  
8.2 Dictionaries  
id  
testbank-py-1-ch08-58

59. What is in the `fruit` dictionary after the following code segment executes?

```
fruit = {"Apple": "Green", "Banana": "Yellow", "Plum": "Purple"}
fruit.pop("Banana")
```

1. `{"Apple": "Green", "Plum": "Purple"}`
2. `{"Apple": "Green", "Banana", "Plum": "Purple"}`
3. `{"Apple": "Green", "Yellow", "Plum": "Purple"}`
4. There is no value in `fruit` because the program terminates with a runtime error

Title  
Removing an element from a dictionary  
type  
mc  
Section  
8.2 Dictionaries  
id  
testbank-py-1-ch08-59

60. Which code segment prints only the values stored in the `fruit` dictionary?

1. `for item in fruit :`  
    `print(item)`
2. `for item in fruit.items() :`  
    `print(item)`

```

3. for item in fruit.keys() :
 print(item)

4. for item in fruit.values() :
 print(item)

```

Title

Which code segment prints only the values stored in a dictionary?

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-60

61. Consider the following scenario. You have many friends, each of whom has several phone numbers (home, work, cell, and perhaps others). You want to create a phone book program that stores all of this data. Which of the following data structures would be best suited to this task?
1. a dictionary of lists
  2. a list of lists
  3. a list of strings
  4. a set of integers

Title

What type of container or structure best solves the given scenario?

type

mc

Section

8.3 Complex Structures

id

testbank-py-1-ch08-61

62. Consider the following problem:

A grocery store carries a wide variety of products that fall into broad categories such as fruit, milk and toys. Each category contains many items. For example, the fruit category contains items like apples, oranges and bananas while the milk category contains items like skim, 2% and chocolate, and the toys category includes items like balls, dolls and trucks. A program for the grocery store needs to be able to add new items to a category, remove items from a category and display all of the items in a category. The order in which the items are displayed is not important.

Which container or structure best solves this problem?

1. a dictionary of sets
2. a dictionary of strings
3. a list of strings
4. a set of strings

Title

What type of container or structure best solves the given scenario?



type  
mc  
Section  
8.3 Complex Structures  
id  
testbank-py-2-ch08-62  
from  
testbank-py-1-ch08-62

63. Which of the following code segments creates a dictionary of lists?

1. `days = {}  
days["February"] = 28, 29`
2. `days = {}  
days["February"] = (28, 29)`
3. `days = {}  
days["February"] = [28, 29]`
4. `days = {}  
days["February"] = {28, 29}`

Title  
Which code segment creates a dictionary of lists?  
type  
mc  
Section  
8.3 Complex Structures  
id  
testbank-py-1-ch08-63

64. What does the following code segment display?

```
data = {"Jan": 31, "Feb": [28, 29], "Mar", 31}
print(data["Jan"][0])
```

1. 3
2. 31
3. J
4. The program raises an exception

Title  
Trace code involving a complex structure  
type  
mc  
Section  
8.3 Complex Structures  
id  
testbank-py-1-ch08-64

65. What does the following code segment display?

```
data = {"Jan": 31, "Feb": [28, 29], "Mar", 31}
print(data["Feb"][0])
```

1. 2
2. 28
3. 29
4. The program raises an exception

Title

Trace code involving a complex structure

type

mc

Section

8.3 Complex Structures

id

testbank-py-1-ch08-65

66. Assume that you have created a function named `drawBarGraph` for displaying bar graphs, and that you have stored it in a source file named `bargraph.py`. How should you import this function into another program so that it can be used as shown below:

```
bargraph.drawBarGraph(data)
```

1. `import bargraph`
2. `import bargraph.py`
3. `from bargraph import drawBarGraph`
4. `from bargrapy.py import drawBarGraph`

Title

How do you import a function from another source file?

type

mc

Section

8.3 Complex Structures

id

testbank-py-1-ch08-66

67. Consider the following code segment:

```
pets = {}
pets["Snowball"] = {77, 4.5, "Cat"}
pets["Spike"] = {132, 23.1, "Dog"}
```

The complex structure `pets` would best be characterized as:

1. A dictionary of dictionaries
2. A dictionary of lists
3. A dictionary of sets
4. A dictionary of strings

Title

Characterize a complex structure

type

mc  
 Section  
 8.3 Complex Structures  
 id  
 testbank-py-1-ch08-67

68. Consider the following code segment:

```
x = {}
x["Hello"] = [4, 5]
x["Hello"].append("World")
print(x["Hello"])
```

What is displayed when it is executed?

1. Hello
2. HelloWorld
3. [4, 5]
4. [4, 5, "World"]

Title  
 Trace code involving appending to a complex structure  
 type  
 mc  
 Section  
 8.3 Complex Structures  
 id  
 testbank-py-1-ch08-68

69. What method is used to remove elements from a set?

1. clear()
2. delete()
3. discard()
4. drop()

Title  
 What method is used to remove elements from a set?  
 type  
 mc  
 Section  
 8.1 Sets  
 id  
 testbank-py-1-ch08-69

70. Which statement about lists and sets is correct?

1. In a list the elements are stored in order. In a set they are not stored in any particular order.
2. In both a set and a list, the elements can be accessed by position.

3. Both sets and lists have methods for computing the union, difference and intersection of two containers.
4. List operations are much faster than the equivalent set operations.

Title

Which statement about lists and sets is correct?

type

mc

Section

8.1 Sets

id

testbank-py-2-ch08-70

from

testbank-py-1-ch08-70

71. Which of the following is NOT true about sets?
1. a set has operations available for use such as union, difference, and intersection
  2. in a set, elements cannot be accessed by position
  3. in a set, elements are stored in the order they are added
  4. set operations are much faster than the equivalent list operations

Title

Which of the following is NOT true about sets?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-71

72. What method is used to remove all elements from a set?

1. `clear()`
2. `delete()`
3. `discard()`
4. `drop()`

Title

What method is used to remove all elements from a set?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-72

73. Which statement determines if set  $x$  is a proper subset of set  $y$ ?

1. `x.issubset(y)`
2. `x.issubset(y)` and `x != y`
3. `x.issubset(y)` and `x == y`
4. `x == y`

Title

Which statement determines if set x is a proper subset of set y?

type

mc

Section

8.1 Sets

id

testbank-py-1-ch08-73

74. Which statement correctly creates a dictionary for converting numbers 1 through 5 to roman numerals?

1. `numerals = {[1, "I"], [2, "II"], [3, "III"], [4, "IV"], [5, "V"]}`
2. `numerals = [1: "I", 2: "II", 3: "III", 4: "IV", 5: "V"]`
3. `numerals = (1: "I", 2: "II", 3: "III", 4: "IV", 5: "V")`
4. `numerals = {1: "I", 2: "II", 3: "III", 4: "IV", 5: "V"}`

Title

Which statement correctly creates a dictionary for converting numbers 1 through 5 to roman numerals?

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-74

75. What is the difference between a list and a dictionary?

1. a list is a subset of a dictionary
2. a dictionary can access elements by position
3. a list stores individual elements but a dictionary stores key/value pairs
4. list operations are much faster than the equivalent dictionary operations

Title

What is the difference between a list and a dictionary?

type

mc

Section

8.2 Dictionaries

id

testbank-py-1-ch08-75

76. What can specify the address of a web application and the arguments that must be supplied to get it to produce the desired result?
1. The Application Programming Interface (API)
  2. The Computing Resource Allocator (CRA)
  3. The Global Representation of External Programs (GREP)
  4. The Python Programming Principles (PPP)

Title

What specifies the address of a web application and the arguments that must be supplied to get it to produce the desired result?

type

mc

Section

8.3 Complex Structures

id

testbank-py-2-ch08-76

77. What plain text format is commonly used to exchange data between a Python program and a web application?
1. BitMap Protocol (BMP)
  2. Internet Handshake Format (IHF)
  3. JavaScript Object Notation (JSON)
  4. Python to Python Protocol (PPP)

Title

What plain text format is commonly used to exchange data between a Python program and a web application?

type

mc

Section

8.3 Complex Structures

id

testbank-py-2-ch08-77

78. What is the purpose of the `loads` function in the `json` module?
1. The `loads` function converts from JSON format to a Python dictionary.
  2. The `loads` function creates a string that can be sent to the web application to request additional data.
  3. The `loads` function reads data from a file stored on the same computer as the Python program.
  4. The `loads` function retrieves data from a web application.

Title

What is the purpose of the `loads` function in the `json` module?

type

mc

Section

8.3 Complex Structures

id

testbank-py-2-ch08-78

79. What character is used to separate the address from the arguments in a URL?

1. +
2. ?
3. ,
4. :

Title

What character is used to separate the address from the arguments in a URL?

type

mc

Section

8.3 Complex Structures

id

testbank-py-2-ch08-79

80. What is returned by a dictionary's items method?

1. A list of integers
2. A sequence of tuples
3. A set of floating point numbers
4. A string

Title

What is returned by a dictionary's items method?

type

mc

Section

8.2 Dictionaries

id

testbank-py-2-ch08-80

81. Which of the following statements is **not** true?

1. Splitting a large program into multiple files can make it easier to debug the program.
2. Splitting a large program into multiple files can make the program run more quickly.
3. Splitting a large program into multiple files can make it easier for multiple programmers to work on the program at the same time.
4. Splitting a large program into multiple files can make it easier to test the program.

Title

Why is it beneficial to split a large program into multiple files?

type

mc

Section

8.3 Complex Structures

id

testbank-py-2-ch08-81

82. Consider the following code segment:

```
data = {"A": 65, "B": 66, "C": 67}
data["D"] = 68
print(len(data))
```

What is displayed when this code segment is executed?

1. 3
2. 4
3. 6
4. 8

Title

What is displayed by a code segment involving a dictionary and the len function?

type

mc

Section

8.2 Dictionaries

id

testbank-py-2-ch08-81

83. What structure should be used to store a collection of unique values when the order of the elements is not important?

1. A dictionary
2. A list
3. A set
4. A string

Title

What structure should be used to store a collection of unique values when the order of the elements is not important?

type

mc

Section

8.2 Dictionaries

id

testbank-py-2-ch08-81