**Starting Out with Python 4e (Gaddis)**

**Chapter 9 Dictionaries and Sets**

**TRUE/FALSE**

1. You would typically use a **for** loop to iterate over the elements in a set.

ANS: T

2. Sets are immutable.

ANS: F

3. Sets are created using curly braces **{ }**.

ANS: F

4. The set **remove** and **discard** methods behave differently only when a specified item is not found in the set.

ANS: T

5. A dictionary can include the same value several times but cannot include the same key several times.

ANS: T

6. The union of two sets is a set that contains only the elements that appear in both sets.

ANS: F

7. The difference of **set1** and **aet2** is a set that contains only the elements that appear in **set1** but do not appear in **set2**.

ANS: T

8. The elements in a dictionary are stored in ascending order, by the keys of the key-value pairs.

ANS: F

9. If you try to retrieve a value from a dictionary using a nonexistent key, a **KeyError** exception is raised.

ANS: T

10. The **issubset()** method can be used to determine whether **set1** is a subset of **set2**.

ANS: T

**MULTIPLE CHOICE**

1. In a dictionary, you use a(n) \_\_\_\_\_\_\_\_\_\_ to locate a specific value.

|  |  |
| --- | --- |
| a. | datum |
| b. | element |
| c. | item |
| d. | key |

ANS: D

2. What is the correct structure to create a dictionary of months where each month will be accessed by its month number (for example, January is month 1, April is month 4)?

|  |  |
| --- | --- |
| a. | **{ 1 ; 'January', 2 ; 'February', ... 12 ; 'December'}** |
| b. | **{ 1 : 'January', 2 : 'February', ... 12 : 'December' }** |
| c. | **[ '1' : 'January', '2' : 'February', ... '12' : 'December' ]** |
| d. | **{ 1, 2,... 12 : 'January', 'February',... 'December' }** |

ANS: B

3. What will be the result of the following code?

**ages = {'Aaron' : 6, 'Kelly' : 3, 'Abigail' : 1 }**

**value = ages['Brianna']**

|  |  |
| --- | --- |
| a. | **False** |
| b. | **-1** |
| c. | **0** |
| d. | **KeyError** |

ANS: D

4. What is the number of the first index in a dictionary?

|  |  |
| --- | --- |
| a. | **0** |
| b. | **1** |
| c. | the size of the dictionary minus one |
| d. | Dictionaries are not indexed by number. |

ANS: D

5. What is the value of the variable **phones** after the following code executes?

**phones = {'John' : '5555555', 'Julie' : '5557777'}**

**phones['John'] = 5556666'**

|  |  |
| --- | --- |
| a. | **{'John' : '5555555', 'Julie' : '5557777'}** |
| b. | **{'John' : '5556666', 'Julie' : '5557777'}** |
| c. | **{'John' : '5556666'}** |
| d. | This code is invalid. |

ANS: B

6. Which would you use to delete an existing key-value pair from a dictionary?

|  |  |
| --- | --- |
| a. | **del** |
| b. | **remove** |
| c. | **delete** |
| d. | **unpair** |

ANS: A

7. Which would you use to get the number of elements in a dictionary?

|  |  |
| --- | --- |
| a. | **size** |
| b. | **length** |
| c. | **len** |
| d. | **sizeof** |

ANS: C

8. Which method would you use to get all the elements in a dictionary returned as a list of tuples?

|  |  |
| --- | --- |
| a. | **list** |
| b. | **items** |
| c. | **pop** |
| d. | **keys** |

ANS: B

9. Which method would you use to get the value associated with a specific key and remove that key-value pair from the dictionary?

|  |  |
| --- | --- |
| a. | **list** |
| b. | **items** |
| c. | **pop** |
| d. | **popitem** |

ANS: C

10. Which method can be used to add a group of elements to a set?

|  |  |
| --- | --- |
| a. | **add** |
| b. | **addgroup** |
| c. | **update** |
| d. | **addset** |

ANS: C

11. In order to avoid **KeyError** exceptions, you can check whether a key is in the dictionary using the \_\_\_\_\_\_\_\_\_\_ operator.

|  |  |
| --- | --- |
| a. | **included** |
| b. | **in** |
| c. | **isnotin** |
| d. | **isin** |

ANS: B

12. What does the **get** method do if the specified key is not found in the dictionary?

|  |  |
| --- | --- |
| a. | It throws an exception. |
| b. | It does nothing. |
| c. | It returns a default value. |
| d. | You cannot use the **get** method to specify a key. |

ANS: C

13. Which of the following does not apply to sets?

|  |  |
| --- | --- |
| a. | The stored elements can be of different data types. |
| b. | All the elements must be unique; you cannot have two elements with the same value. |
| c. | The elements are unordered. |
| d. | The elements are in pairs. |

ANS: D

14. What is the process used to convert an object to a stream of bytes that can be saved in a file?

|  |  |
| --- | --- |
| a. | pickling |
| b. | streaming |
| c. | writing |
| d. | dumping |

ANS: A

15. What will be displayed after the following code executes? (Note: the order of the display of entries in a dictionary are not in a specific order.)

**cities = {'GA' : 'Atlanta', 'NY' : 'Albany', 'CA' : 'San Diego'}**

**if 'CA' in cities:**

**del cities['CA']**

**cities['CA'] = 'Sacramento'**

**print(cities)**

|  |  |
| --- | --- |
| a. | **{'CA': 'Sacramento'}** |
| b. | **['CA': 'Sacramento']** |
| c. | **{'NY': 'Albany', 'GA': 'Atlanta'}** |
| d. | **{'CA': 'Sacramento', 'NY': 'Albany', 'GA': 'Atlanta'}** |

ANS: D

16. What will be displayed after the following code executes? (Note: the order of the display of entries in a dictionary are not in a specific order.)

**cities = {'GA' : 'Atlanta', 'NY' : 'Albany', 'CA' : 'San Diego'}**

**if 'FL' in cities:**

**del cities['FL']**

**cities['FL'] = 'Tallahassee'**

**print(cities)**

|  |  |
| --- | --- |
| a. | **{'FL': 'Tallahassee'}** |
| b. | **KeyError** |
| c. | **{'CA': 'San Diego', 'NY': 'Albany', 'GA': 'Atlanta', 'FL' 'Tallahassee'}** |
| d. | **{'CA': 'San Diego', 'NY': 'Albany', 'GA': 'Atlanta'}** |

ANS: D

17. What will be displayed after the following code executes? (Note: the order of the display of entries in a dictionary are not in a specific order.)

**cities = {'GA' : 'Atlanta', 'NY' : 'Albany', 'CA' : 'San Diego'}**

**if 'FL' in cities:**

**del cities['FL']**

**cities['FL'] = 'Tallahassee'**

**print(cities)**

|  |  |
| --- | --- |
| a. | **{'FL': 'Tallahassee'}** |
| b. | **KeyError** |
| c. | **{'GA': 'Atlanta', 'FL': 'Tallahassee', 'NY': 'Albany', 'CA': 'San Diego'}** |
| d. | **{'CA': 'San Diego', 'NY': 'Albany', 'GA': 'Atlanta'}** |

ANS: C

**COMPLETION**

1. A(n) \_\_\_\_\_\_\_\_\_\_ is an object that holds multiple unique items of data in an unordered manner.

ANS: set

2. The built-in function, \_\_\_\_\_\_\_\_\_\_, returns the number of items in a set.

ANS: **len**

3. To add a single item to a set, you can use the set \_\_\_\_\_\_\_\_\_\_ method.

ANS: **add**

4. The \_\_\_\_\_\_\_\_\_\_ of two sets is a set that contains all the elements of both sets.

ANS: union

5. Each element in a(n) \_\_\_\_\_\_\_\_\_\_ has two parts: a key and a value.

ANS: dictionary

6. The elements in a dictionary are not stored in a specific order. Therefore, a dictionary is not a(n) \_\_\_\_\_\_\_\_\_\_\_.

ANS: sequence

7. To determine whether or not a key is included in a dictionary, or if an element is included in a set, you can use the \_\_\_\_\_\_\_\_\_\_\_ operator.

ANS: **not in**

8. The \_\_\_\_\_\_\_\_\_\_ method returns a value associated with a specific key and, if found, removes that key-value pair from the dictionary.

ANS: **pop**

9. The \_\_\_\_\_\_\_\_\_\_ method clears the contents of a dictionary.

ANS: **clear**

10. To write an object to a file, you use the \_\_\_\_\_\_\_\_\_\_ function of the \_\_\_\_\_\_\_\_\_\_ module.

ANS: **dump, pickle**

11. The \_\_\_\_\_\_\_\_\_\_ method returns all of a dictionary's keys as a dictionary view.

ANS: **keys**

12. Each element in a dictionary view is a \_\_\_\_\_\_\_\_\_\_.

ANS: tuple