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

**Chapter 10 Classes and Object-Oriented Programming**

**TRUE/FALSE**

1. A mutator method has no control over the way that a class's data attributes are modified.

ANS: F

2. In a UML diagram the first section holds the list of the class's methods.

ANS: F

3. Object-oriented programming allows us to hide the object's data attributes from code that is outside the object.

ANS: T

4. Procedures operate on data items that are separate from the procedures.

ANS: T

5. All instances of a class share the same values of the data attributes in the class.

ANS: F

6. All class definitions are stored in the library so that they can be imported into any program.

ANS: F

7. The **self** parameter is required in every method of a class.

ANS: T

8. A class can be thought of as a blueprint that can be used to create an object.

ANS: T

9. An object is a stand-alone program but is used by programs that need its service.

ANS: F

10. The **self** parameter need not be named **self** but it is strongly recommended to do so, to conform with standard practice.

ANS: T

**MULTIPLE CHOICE**

1. What does the acronym UML stand for?

|  |  |
| --- | --- |
| a. | Unified Modeling Language |
| b. | United Modeling Language |
| c. | Unified Model Language |
| d. | Union of Modeling Languages |

ANS: A

2. Which section in the UML holds the list of the class's data attributes?

|  |  |
| --- | --- |
| a. | first section |
| b. | second section |
| c. | third section |
| d. | fourth section |

ANS: B

3. Which section in the UML holds the list of the class's methods?

|  |  |
| --- | --- |
| a. | first section |
| b. | second section |
| c. | third section |
| d. | fourth section |

ANS: C

4. What type of method provides a safe way for code outside a class to retrieve the values of attributes, without exposing the attributes in a way that could allow them to be changed by code outside the method?

|  |  |
| --- | --- |
| a. | accessor |
| b. | mutator |
| c. | setter |
| d. | class |

ANS: A

5. The procedures that an object performs are called

|  |  |
| --- | --- |
| a. | methods |
| b. | actions |
| c. | modules |
| d. | instances |

ANS: A

6. Which attributes belong to a specific instance of a class?

|  |  |
| --- | --- |
| a. | instance |
| b. | self |
| c. | object |
| d. | data |

ANS: A

7. What is the special name given to the method that returns a string containing an object's state?

|  |  |
| --- | --- |
| a. | **\_\_state\_\_** |
| b. | **\_\_obj\_\_** |
| c. | **\_\_str\_\_** |
| d. | **\_\_init\_\_** |

ANS: C

8. Which method is automatically executed when an instance of a class is created in memory?

|  |  |
| --- | --- |
| a. | **\_\_state\_\_** |
| b. | **\_\_obj\_\_** |
| c. | **\_\_str\_\_** |
| d. | **\_\_init\_\_** |

ANS: D

9. Which method is automatically called when you pass an object as an argument to the **print** function?

|  |  |
| --- | --- |
| a. | **\_\_state\_\_** |
| b. | **\_\_obj\_\_** |
| c. | **\_\_str\_\_** |
| d. | **\_\_init\_\_** |

ANS: C

10. What type of programming contains class definitions?

|  |  |
| --- | --- |
| a. | procedural |
| b. | top-down |
| c. | object-oriented |
| d. | modular |

ANS: C

11. Which of the following can be thought of as a self-contained unit that consists of data attributes and the methods that operate on the data attributes?

|  |  |
| --- | --- |
| a. | a class |
| b. | an object |
| c. | an instance |
| d. | a module |

ANS: B

12. Combining data and code in a single object is known as

|  |  |
| --- | --- |
| a. | modularity |
| b. | instantiation |
| c. | encapsulation |
| d. | objectification |

ANS: C

13. Mutator methods are also known as

|  |  |
| --- | --- |
| a. | setters |
| b. | getters |
| c. | instances |
| d. | attributes |

ANS: A

14. Accessor methods are also known as

|  |  |
| --- | --- |
| a. | setters |
| b. | getters |
| c. | instances |
| d. | attributes |

ANS: B

15. When an object is passed as an argument, \_\_\_\_\_\_\_\_\_\_ is passed into the parameter variable.

|  |  |
| --- | --- |
| a. | a copy of the object |
| b. | a reference to the object's state |
| c. | a reference to the object |
| d. | Objects cannot be passed as arguments. |

ANS: C

16. In object-oriented programming, one of first tasks of the programmer is to

|  |  |
| --- | --- |
| a. | list the nouns in the problem |
| b. | list the methods that are needed |
| c. | identify the classes needed |
| d. | identify the objects needed |

ANS: C

17. Which is the first line needed when creating a class named **Worker**?

|  |  |
| --- | --- |
| a. | **def\_\_init\_\_(self):** |
| b. | **class Worker:** |
| c. | **import random** |
| d. | **def worker\_pay(self):** |

ANS: B

18. Which of the following will create an object, **worker\_joey**, of the **Worker** class?

|  |  |
| --- | --- |
| a. | **def\_\_init\_\_(worker\_joey):** |
| b. | **class worker\_joey:** |
| c. | **worker\_joey = Worker()** |
| d. | **worker\_joey.Worker** |

ANS: C

**COMPLETION**

1. A(n) \_\_\_\_\_\_\_\_\_\_ is code that specifies the data attributes and methods for a particular type of object.

ANS: class

2. Each object that is created from a class is called a(n) \_\_\_\_\_\_\_\_\_\_ of the class.

ANS: instance

3. A class \_\_\_\_\_\_\_\_\_\_ is a set of statements that defines a class's methods and data attributes.

ANS: definition

4. A(n) \_\_\_\_\_\_\_\_\_\_ method in a class initializes an object's data attributes.

ANS: initializer

5. An object's \_\_\_\_\_\_\_\_\_\_ contains the values of the object's attributes at a given moment.

ANS: state

6. A method that returns a value from a class's attribute but does not change it is known as a(n) \_\_\_\_\_\_\_\_\_\_ method.

ANS: accessor

7. In \_\_\_\_\_\_\_\_\_\_\_ programming, the programming is centered on objects that are created from abstract data types that encapsulate data and functions together.

ANS: object-oriented

8. \_\_\_\_\_\_\_\_\_\_\_ programming is a method of writing software that centers on the actions that take place in a program.

ANS: Procedural

9. \_\_\_\_\_\_\_\_\_\_\_ provides a set of standard diagrams for graphically depicting object-oriented systems.

ANS: UML

10. The instance attributes are created by the \_\_\_\_\_\_\_\_\_\_ parameter and they belong to a specific instance of the class.

ANS: **self**