

Homework 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:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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:

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:

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:

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:

5. The procedures that an object performs are called
 - a. methods
 - b. actions
 - c. modules
 - d. instances

ANS:

6. Which attributes belong to a specific instance of a class?
 - a. instance
 - b. self
 - c. object
 - d. data

ANS:

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:

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:

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:

10. What type of programming contains class definitions?

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

ANS:

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:

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

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

ANS:

13. Mutator methods are also known as

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

ANS:

14. Accessor methods are also known as

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

ANS:

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:

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:

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:

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:

COMPLETION

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS:

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

ANS: