

Lecture 2-classes and objects in java

1. What is the main purpose of Object-Oriented Programming (OOP)?

- a) To make programs run faster
- b) To organize information based on real-world objects
- c) To reduce the number of lines of code
- d) To eliminate the need for variables

Answer:

2. In Java, what is a class?

- a) A piece of data
- b) A type of method
- c) A template defined by the programmer
- d) An instance of an object

Answer:

3. What is an object in Java?

- a) A blueprint for creating data
- b) A piece of data made from a class template
- c) A method within a class
- d) A variable declaration

Answer:

4. Which of the following is true about member variables in a class?

- a) They are always public
- b) They store data the objects need
- c) They can only be accessed by constructors
- d) They are defined inside methods

Answer:

5. What is the purpose of a constructor in Java?

- a) To destroy objects
- b) To define member variables
- c) To create a new object
- d) To override methods

Answer:

6. In Java, where does program execution begin?

- a) The first line of any method
- b) The first line of the main method
- c) The class declaration
- d) The first member variable declaration

Answer:

7. What does the 'static' keyword mean when used with the main method?

- a) The method belongs to the class, not objects of the class
- b) The method can only be called once
- c) The method cannot access member variables
- d) The method is private

Answer:

8. What is method overloading in Java?

- a) Creating methods with the same name but different parameters
- b) Creating methods with different names but same parameters
- c) Overriding methods from a superclass
- d) Creating methods that can only be called once

Answer:

9. What is the main advantage of method overloading?

- a) It makes the program run faster
- b) It allows for better encapsulation
- c) It reduces the need to remember different method names for similar operations
- d) It automatically handles type conversion

Answer:

10. What does the 'public' keyword mean when used with a member variable?

- a) The variable can only be accessed within the class
- b) The variable can be accessed from any class
- c) The variable is constant and cannot be changed
- d) The variable is only accessible in the package

Answer:

11. What does the 'private' keyword mean when used with a member variable?

- a) The variable can be accessed from any class
- b) The variable can only be accessed within the class
- c) The variable is constant and cannot be changed
- d) The variable is only accessible in the package

Answer:

12. What is the purpose of getter methods?

- a) To set values of private member variables
- b) To create new objects
- c) To access values of private member variables
- d) To overload constructors

Answer:

13. What is the purpose of setter methods?

- a) To get values of private member variables
- b) To set values of private member variables
- c) To create new objects

d) To override methods

Answer:

14. Why is it generally recommended to make member variables private?

- a) To improve program performance
- b) To reduce memory usage
- c) To allow direct access from other classes
- d) To control access and maintain data integrity

Answer:

15. In a memory model, how are primitive type variables represented?

- a) As references to objects
- b) As boxes containing values
- c) As methods
- d) As classes

Answer:

16. In a memory model, how are object variables represented?

- a) As boxes containing values
- b) As references to objects in the heap
- c) As methods
- d) As classes

Answer:

17. What happens when you assign one object variable to another?

- a) The object is copied
- b) A new object is created
- c) The reference is copied
- d) The classes are merged

Answer:

18. What is the scope of a local variable in Java?

- a) The entire class
- b) The entire program
- c) The block in which it is declared
- d) Only within constructors

Answer:

19. What is the scope of a member variable in Java?

- a) The entire class
- b) Only within methods
- c) Only within constructors
- d) The block in which it is declared

Answer:

20. What does the 'this' keyword refer to in Java?

- a) The current class
- b) The superclass
- c) The current object
- d) The main method

Answer: