

Chapter 2: Class as the Basis of All Computations

Extracted Questions from PDF

1 Multiple Choice Questions (1–20)

1.1 1. Which of the following is NOT a feature of Object-Oriented Programming (OOP) implemented by classes in Java?

- (a) Abstraction
- (b) Inheritance
- (c) Encapsulation
- (d) Compilation

1.2 2. What is the primary purpose of the new operator in Java?

- (a) To declare a variable
- (b) To allocate memory for an object at runtime
- (c) To define a class
- (d) To initialize a constant

1.3 3. Which of the following correctly declares and initializes an object in Java?

- (a) Student student1;
- (b) Student1 = Student();
- (c) Student student1 = new Student();
- (d) New Student = student1();

1.4 4. Which access specifier allows members to be accessible within the same class, subclasses, and other classes in the same package?

- (a) Private

(b) Public

(c) Protected

(d) Default

1.5 5. In Java, what is the default value of a boolean variable?

- (a) Null
- (b) 0
- (c) True
- (d) False

1.6 6. Which type of variable is declared within a method and is destroyed once the method is finished?

- (a) Instance Variable
- (b) Local Variable
- (c) Static Variable
- (d) Final Variable

1.7 7. What is the size of an int data type in Java?

- (a) 1 byte
- (b) 2 bytes
- (c) 4 bytes
- (d) 8 bytes

- 1.8 8. What is the primary feature of a final variable in Java?**
- (a) It can store the reference of multiple objects
 - (b) Its value can be modified during runtime
 - (c) Its value cannot be changed once assigned
 - (d) It is accessible only within the class
- 1.9 9. What does the following line of code do? `Student student1 = new Student();`**
- (a) Declares a class named Student
 - (b) Creates a new object of the Student class and assigns its reference to student1
 - (c) Declares a local variable named Student
 - (d) Assigns a new class to the variable student1
- 1.10 10. What is the primary purpose of encapsulation in Java?**
- (a) To enable inheritance between classes
 - (b) To hide the implementation details and protect data
 - (c) To provide faster compilation
 - (d) To improve runtime efficiency
- 1.11 11. A class is called :**
- (a) Object Factory
 - (b) User defined data type
 - (c) Composite data type
 - (d) All of these
- 1.12 12. Which of the following is not a keyword?**
- (a) Void
 - (b) Byte
 - (c) Object
 - (d) Public
- 1.13 13. A variable whose value exists throughout the life of the program is a?**
- (a) Local variable
 - (b) Static variable
 - (c) Final variable
 - (d) None of these
- 1.14 14. Which operator is used to allocate memory to an object?**
- (a) Dot
 - (b) New
 - (c) Both (a) and (b)
 - (d) None of these
- 1.15 15. The characteristics of a class are represented by which variable?**
- (a) Local variables
 - (b) Instance variables
 - (c) Static variables
 - (d) Final variables
- 1.16 16. In the statement `Student stu = new Student();` what is the name of the object?**
- (a) Student
 - (b) stu
 - (c) Stu
 - (d) None of these
- 1.17 17. In the below class, choose the name of the data members :**
- ```
class Test { String name; int age; public static void main() { float x = 5; int p; } }
```
- (a) name, age
  - (b) x, p
  - (c) name, x
  - (d) age, p

- 1.18 18. For which of the following data types, the size of the variable declared will be fixed?**
- (a) Primitive
  - (b) Reference
  - (c) Composite
  - (d) None of these
- 1.19 19. A class implements which of the following OOP characteristics?**
- (a) Encapsulation
  - (b) Inheritance
  - (c) Abstraction
  - (d) Polymorphism
- 1.20 20. The messages are passed in a class using :**
- (a) Local variables
  - (b) Function parameters
  - (c) Objects
  - (d) None of these
- 2 Short Answer Questions (51–65)**
- 2.1 51. What does a class encapsulate?**
- 2.2 52. What are the different set of data types available in Java?**
- 2.3 53. Difference between public and private modifiers for members of a class.**
- 2.4 54. List various reference data types of Java.**
- 2.5 55. Write a Java statement to compute discount.**
- 2.6 56. What is the difference between an object and a class?**
- 2.7 57. Why is a class called a factory of objects?**
- 2.8 58. Define Instance Variable with example.**
- 2.9 59. Assign the value of pie (3.142) to a variable.**
- 2.10 60. What is a class in Java?**
- 2.11 61. What are the features of OOP implemented by classes?**
- 2.12 62. What does an object encapsulate in Java?**
- 2.13 63. What are the primary access specifiers in Java?**
- 2.14 64. Differentiate between primitive and reference data types.**
- 2.15 65. Explain the steps for declaring and initializing an object in Java.**