

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.