Chapter 1

1. Explain different bitwise operators in Java with examples and provide sample code for illustration.
2. Write a Java program to determine whether a number is even or odd.
3. Describe any two logical operators in Java with suitable examples.
4. List any eight features of the Java programming language.
5. Explain platform independence and portability in Java.
6. Discuss the types of constructors in Java with an example.
7. Write a Java program to check whether a number is odd or even using the ternary operator.
8. Define a class and object in Java, and give one example.
9. Explain why the main () method in Java is declared as static and void.
10. List four relational operators in Java and explain the use of each with examples.
11. List the key features of Java and describe any two of them with neat labeled diagrams.
12. Write a Java program to reverse an integer number.
13. Define a class Cube with data members length, breadth, and height. Initialize three objects using different constructors and display the volume of each cube.
14. What is the Java Virtual Machine (JVM)? Describe its use with the help of a diagram.
15. What is a constructor? List any four features of constructors and provide a Java example.
16. Explain the concept of a copy constructor in Java with an example.
17. Explain type casting in Java with examples.
18. Explain Java tokens with suitable examples.
19. Define keywords in Java and list any four keywords with their meanings.
20. Explain the role of the following Vector methods with examples:
    - addElement()
    - removeElementAt()
    - capacity()
    - size()
21. Differentiate between **autoboxing** and **unboxing** with examples.
22. Write a program to check whether a given string is a **palindrome** using String methods.
23. Guess the output:

```
class Student {
   String name;
   Student(String n) {
      name = n;
```

```
    }
    void display() {
        System.out.println("Student: " + name);
    }
}
public class Main {
    public static void main(String[] args) {
        Student s1 = new Student("Rahul");
        s1.display();
    }
}
```

24. Write a Java program to count the number of vowels in a given string.
25. Write a program to reverse a string using StringBuffer.
26. Explain the role of the following StringBuffer methods with examples:
    - append()
    - insert()
    - delete()
    - replace()
27. Write a program that accepts a name from the user and appends "Welcome" using StringBuffer.