

## Java Test

Duration: 1 hour

Total Marks: 50

Instructions:

1. Answer all questions.
2. Allocate your time wisely.

### Section 1: Fill in the Blanks (5 Questions, 1 Mark Each)

1. Java is a \_\_\_\_\_ programming language. (1 Mark)
2. The \_\_\_\_\_ statement is used to terminate a loop in Java. (1 Mark)
3. The default value of a boolean variable in Java is \_\_\_\_\_. (1 Mark)
4. A loop that runs indefinitely is called a \_\_\_\_\_ loop. (1 Mark)
5. The \_\_\_\_\_ keyword is used to skip an iteration of a loop. (1 Mark)

### Section 2: Multiple Choice Questions (10 Questions, 2 Marks Each)

1. Which of the following is a valid loop in Java?
  - a) for loop
  - b) while loop
  - c) do-while loop
  - d) All of the above (2 Marks)
2. What is the output of the following code snippet?

```
int x = 5;
while (x > 0) {
    System.out.println(x);
    x--;
}
```

  - a) 5 4 3 2 1
  - b) 4 3 2 1
  - c) Infinite loop
  - d) None of the above (2 Marks)

3. Which keyword is used to exit a loop in Java?

- a) continue
- b) stop
- c) exit
- d) break (2 Marks)

4. What is the difference between while and do-while loop?

- a) No difference
- b) do-while checks the condition at the beginning
- c) while checks the condition at the beginning
- d) do-while executes only once (2 Marks)

5. Which of the following is not a type of loop in Java?

- a) for
- b) while
- c) repeat-until
- d) do-while (2 Marks)

6. What is the output of the following code snippet?

```
int i = 1;  
while (i <= 3) {  
    System.out.println(i);  
    i++;  
}
```

- a) 1 2 3
- b) 1 2
- c) 3 2 1
- d) Infinite loop (2 Marks)

7. What will happen if the condition in a for loop is always true?

- a) The loop will execute exactly once
- b) The loop will execute infinitely
- c) The program will terminate
- d) Compilation error (2 Marks)

8. Which of the following is a correct syntax for a for loop?

- a) for(int i = 0; i < n; i++)
- b) for(i < n; int i = 0; i++)
- c) for(int i = 0, i < n; i++)
- d) for(int i = 0; i++) (2 Marks)

9. What does the continue keyword do?

- a) Exits the loop
- b) Skips the current iteration
- c) Repeats the loop from the beginning
- d) None of the above (2 Marks)

10. Which of the following loops is guaranteed to execute at least once?

- a) while
- b) do-while
- c) for
- d) None of the above (2 Marks)

### Section 3: Short Answer Questions (5 Questions, 3 Marks Each)

1. Explain the difference between entry-controlled and exit-controlled loops. (3 Marks)
2. Write the syntax and an example of a while loop in Java. (3 Marks)
3. Describe the purpose of the break statement in loops. (3 Marks)
4. What are the differences between a for loop and a while loop? (3 Marks)
5. Explain the significance of the continue keyword in a loop with an example. (3 Marks)

### Section 4: Long Answer Questions (5 Questions, 5 Marks Each)

1. Write a program to calculate the sum of even numbers between 1 and 100 using a for loop. (5 Marks)
2. Write a program to display the multiplication table of a given number using a while loop. (5 Marks)
3. Explain the syntax and working of a do-while loop with a program example. (5 Marks)
4. Write a program to find the factorial of a number using a for loop. (5 Marks)
5. Write a program to check if a number is a palindrome using a while loop. (5 Marks)