

# Mock Exam: Introduction to Java Programming

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**Total Time:** 60 minutes

**Total Marks:** 100

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## Section 1: Multiple Choice Questions (40 marks)

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*Choose the correct answer for each of the following questions. Each question is worth 5 marks.*

1. Which of the following is a valid variable declaration in Java?

- a) `int 1number;`
- b) `float number = 2.5;`
- c) `double num = "3.14";`
- d) `char num = 1000;`

2. Which of the following statements will compile without an error?

- a) `int a = 10; b = 3; c = 5;`
- b) `double a = 10, int b = 3, double c = 5;`
- c) `double a = 10, b = 3, c = 5;`
- d) `int a = 3, b = 3, c = 3.0;`

3. Which of the following is the correct way to call a method named `calculateSum` that takes two integer arguments?

- a) `calculateSum(5, 10);`
- b) `int calculateSum(5, 10);`
- c) `calculateSum(int 5, int 10);`
- d) `calculateSum(5, 10) {}`

4. What is the value of `x` after the following code is executed?

```
int x = 5;
x += 3;
x *= 2;
```

- a) 11
- b) 16
- c) 13
- d) 15

5. What value is stored in `result` if `int result = 13-3*6/4%3`?

- a) -5
- b) 0
- c) 13
- d) 12

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

- a) `for(int i = 0; i < 10; i++) {}`
- b) `for(int i = 0; i++) {}`
- c) `for(i = 0; i < 10; i++) {}`
- d) `for(int i = 0; i < 10) {}`

7. Which of the following will NOT correctly assigns the value 2.6 to answer?

- a) `double answer = (double)13/5;`
- b) `double answer = 13/(double)5;`
- c) `double answer = 13.0/5;`
- d) `double answer = (double)(13/5);`

8. What is the output of the following code?

```
int a = 7;
int b = 3;
if (a < 10 && b < 0) {
    System.out.println("value is: " + a * b);
} else {
    System.out.println("value is: " + a / b);
}
```

- a) `Value is: 21`
- b) `value is: 2.33333`
- c) `value is: 2`
- d) `value is: 0`

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## Section 2: Short Answer Questions (10 marks)

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Answer the following questions briefly. Each question is worth 5 marks.

1. Explain the role of the `else` statement in an `if-else` construct.
  2. What is the difference between `while` and `for` loops in Java?
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## Section 3: Coding Questions (30 marks)

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Write the code for the following tasks. Each question is worth 15 marks.

1. Write a Java method `printTable` that takes an integer `n` as input and prints the multiplication table for that number from 1 to 10. For example, if the input is `3`, the output should be:

```
3 x 1 = 3
3 x 2 = 6
3 x 3 = 9
3 x 4 = 12
3 x 5 = 15
3 x 6 = 18
3 x 7 = 21
3 x 8 = 24
3 x 9 = 27
3 x 10 = 30
```

2. Write a Java method `sumOfNumbers` that takes an integer `n` as input and returns the sum of all integers from 1 to `n`. For example, if the input is `4`, the output should be `10` (`1 + 2 + 3 + 4`). Use a `for` loop to solve this.

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## Section 4: Debugging (20 marks)

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Below is a code snippet that contains some errors. Debug the code and write the corrected version. Each error is worth      marks.

```
public class DebuggingExample {
    public static main(String[] args) {
        int x = 10;
        int y = 5;

        if x < y {
            System.out.println("x is greater");
        } else {
            System.out.println("y is greater");
        }

        for i = 0; i < 10; i++ {
            System.out.println(i);
        }
    }
}
```