Java Practice Worksheet: Basics, Conditionals & Loops

Level 1: Basics

1. Print your name 5 times using a loop.
2. Swap two numbers using a temporary variable.
3. Check if a number is even or odd.
4. Find the maximum of three numbers using if-else.
5. Simple calculator - Take two numbers and an operator (+, -, *, /) and perform the operation.

Solutions - Basics

1. for (int i = 0; i < 5; i++) System.out.println("Your Name");
2. int temp = a; a = b; b = temp;
3. if (num % 2 == 0) System.out.println("Even"); else System.out.println("Odd");
4. if (a >= b && a >= c) System.out.println(a); else if (b >= c) System.out.println(b); else System.out.println(c);
5. // Use switch-case or if-else for +, -, *, / operations

Level 2: Conditionals

1. Check if a number is positive, negative, or zero.
2. Check if a year is a leap year or not.
3. Find the greatest among three numbers.
4. Check if a character is a vowel or consonant.
5. Mark grading system - Take marks and print grade (A, B, C, D, Fail) based on range.

Solutions - Conditionals

1. if (num > 0) ... else if (num < 0) ... else ...
2. if ((year % 4 == 0 && year % 100 != 0) || year % 400 == 0)
3. Use if-else to compare three numbers
4. Check if ch == 'a' || ch == 'e' || ...
5. Use if-else ladder: if (marks >= 90) A, else if (marks >= 80) B ...

Level 3: Loops

1. Print all even numbers between 1 and N.
2. Find the sum of digits of a number.

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3. Check if a number is a palindrome.

4. Print the multiplication table of a number.

5. Print the Fibonacci series up to N terms.

6. Print a pattern like:

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7. Find factorial of a number.

8. Reverse a number (e.g., 1234 -> 4321).

9. Check if a number is prime or not.

10. Count the number of digits in a number.

Solutions - Loops

1. for (int i = 1; i <= N; i++) if (i % 2 == 0) System.out.print(i + " ");

2. while (n > 0) { sum += n % 10; n /= 10; }

3. Reverse string or number using loop and compare.

4. for (int i = 1; i <= 10; i++) System.out.println(n + " x " + i + " = " + (n*i));

5. Print a, b, then next = a + b; a = b; b = next;

6. Use nested loop: for rows and stars

7. for (int i = 1; i <= n; i++) fact *= i;

8. while (n > 0) { rev = rev * 10 + n % 10; n /= 10; }

9. Check divisibility from 2 to sqrt(n)

10. while (n > 0) { count++; n /= 10; }