Java Practice Programs: Operators and If-Else

1. Addition, Subtraction, Multiplication, Division of two numbers

```
int a = 10, b = 5;
System.out.println("Addition: " + (a + b));
System.out.println("Subtraction: " + (a - b));
System.out.println("Multiplication: " + (a * b));
System.out.println("Division: " + (a / b));
```

2. Find remainder using modulus operator

```
int a = 29, b = 4;
System.out.println("Remainder: " + (a % b));
```

3. Swap two numbers using a third variable

```
int a = 5, b = 10;
int temp = a;
a = b;
b = temp;
System.out.println("a = " + a + ", b = " + b);
```

4. Swap two numbers without using a third variable

```
int a = 5, b = 10;
a = a + b;
b = a - b;
a = a - b;
System.out.println("a = " + a + ", b = " + b);
```

5. Check whether a number is even or odd

```
int num = 7;
if (num % 2 == 0)
    System.out.println("Even");
else
    System.out.println("Odd");
```

6. Check if a number is positive, negative, or zero

```
int num = -10;
if (num > 0)
    System.out.println("Positive");
else if (num < 0)
    System.out.println("Negative");
else
    System.out.println("Zero");
```

7. Find the largest of two numbers

```
int a = 10, b = 20;
if (a > b)
    System.out.println("a is greater");
else
    System.out.println("b is greater");
```

8. Find the largest of three numbers

```
int a = 10, b = 20, c = 30;
if (a > b && a > c)
    System.out.println("a is greatest");
else if (b > c)
    System.out.println("b is greatest");
else
    System.out.println("c is greatest");
```

9. Check if a year is a leap year

```
int year = 2024;
if (year % 4 == 0 && (year % 100 != 0 || year % 400 == 0))
    System.out.println("Leap year");
else
    System.out.println("Not a leap year");
```

10. Check if a number is divisible by 5 and 11

```
int num = 55;
if (num % 5 == 0 && num % 11 == 0)
    System.out.println("Divisible by 5 and 11");
else
    System.out.println("Not divisible");
```

11. Check whether a character is a vowel or consonant

```
char ch = 'e';
if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u')
    System.out.println("Vowel");
else
    System.out.println("Consonant");
```

12. Check whether a number is prime or not

```
int num = 7;
boolean isPrime = true;
for (int i = 2; i <= num / 2; i++) {
    if (num % i == 0) {
        isPrime = false;
        break;
    }
}
```

```
System.out.println(isPrime ? "Prime" : "Not Prime");
```

13. Check eligibility to vote

```
int age = 20;
if (age >= 18)
    System.out.println("Eligible to vote");
else
    System.out.println("Not eligible");
```

14. Find grade of a student based on marks

```
int marks = 85;
if (marks >= 90)
    System.out.println("Grade A");
else if (marks >= 75)
    System.out.println("Grade B");
else if (marks >= 60)
    System.out.println("Grade C");
else
    System.out.println("Fail");
```

15. Check whether a character is uppercase or lowercase

```
char ch = 'A';
if (ch >= 'A' && ch <= 'Z')
    System.out.println("Uppercase");
else if (ch >= 'a' && ch <= 'z')
    System.out.println("Lowercase");
else
    System.out.println("Not an alphabet");
```