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#include <stdio.h>

int main() {
    // Let us first check for associativity of the subtraction operator
    int a, b = 5, c = 3, d = 2;
    a = b - c - d;
    printf("%d\n",a);
    // Output is 0 which means the above expression is bracketed as
    // a = (b - c) - d
    // The +, -, *, /, % operators are all left associative
    // We can explicitly bracket ourselves in a different manner as shown below
    // a = b - (c - d)

    int e = 10 - 6 + 5 * 4 % 2;
    // The above expression is bracketed as
    // e = ((10 - 6) + ((5 * 4) % 2))
    printf("%d\n",e);

    // The unary negation operator is right associative
    int f = -(-(-e));
    printf("%d\n",f);

    // The assignment operator is right associative
    a = b = c = 9;
    // The above expression is bracketed as
    // (a = (b = (c = 9)))
    printf("%d\n",a);
    // We get a = 9
    // If = had been left associative, we would have had a = 5 since b = 5

    // Note that the assignment operator = also produces a side value, the same as it just
    assigned
    // f = 10 assigns f to 10 but also generates a side value 10
    // In g = f = 10, it is this side value that gets assigned to g
    printf("%d\n",f = 10);

    // Be careful about mixed type, mixed operator expressions
    printf("%f\n",1/3 * 3.0);
    // The expression 1/3 * 3.0 is evaluated, according to BODMAS and associativity rules, as
    // ((1/3) * 3.0) which becomes
    // (0 * 3.0) since 1/3 is integer/integer division so no automatic typecasting. This
    becomes
    // (0.0 * 3.0) due to automatic typecasting which becomes
    // 0.0
    return 0;
}

```