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// datatype.cpp
// Example of variable declarations and
// initialization.
// Programmer: Mr. Smoyer

#include <iostream>

using namespace std;

int main()
{
    // declare constant for the square root of two
    const double SQUARE_ROOT_OF_TWO = 1.414214;

    int i;                      // declares i as an integer
    long j;                     // j as a long integer
    unsigned long k; // k as an unsigned long integer
    float n;                    // n as a floating-point number

    i = 3;                      // initialize i to 3
    j = -2048111;                // j to -2048111
    k = 4000000001;              // k to 4,000,000,001
    n = 1.887;                   // n to 1.887

    // output constant and variables to screen

    cout << "Square root of two: " << SQUARE_ROOT_OF_TWO << '\n';
    cout << "i: " << i << '\n';
    cout << "j: " << j << '\n';
    cout << "k: " << k << '\n';
    cout << "n: " << n << '\n';

    return 0;
}
```