

## R-2.6

Because the class `FibonacciProgression` does not provide public access to the `firstValue()` and `nextValue()` member functions, we design a new class, `FibonacciPlus`, which extends the Fibonacci progression class by providing a public member function that returns the  $k$ th element of the sequence. It is assumed that  $k \geq 1$ .

```
class FibonacciPlus : public FibonacciProgression {
public:
    // constructor
    FibonacciPlus(long f = 0, long s = 1)
        : FibonacciProgression(f, s) { }

    long getKthValue(int k) {           // get the kth value (assumed k >= 1)
        long f = firstValue();         // get the first value
        if (k == 1) return f;          // return first if k == 1
        for (int i = 2; i < k; i++)    // get values 2 through (k-1)st values
            nextValue();
        return nextValue();           // return kth value
    }
};

// ...
FibonacciPlus F(3, 4);                // Fibonacci sequence from 3, 4
cout << F.getKthValue(7) << endl;    // output 7th element
```