

```

/* The following code example is taken from the book
 * "The C++ Standard Library – A Tutorial and Reference"
 * by Nicolai M. Josuttis, Addison-Wesley, 1999
 *
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 */
#include "alghostuff.hpp"
using namespace std;

// function object that adds the value with which it is initialized
template <class T>
class AddValue {
private:
    T theValue;    // value to add
public:
    // constructor initializes the value to add
    AddValue (const T& v) : theValue(v) {
    }

    // the function call for the element adds the value
    void operator() (T& elem) const {
        elem += theValue;
    }
};

int main()
{
    vector<int> coll;

    INSERT_ELEMENTS(coll, 1, 9);

    // add ten to each element
    for_each (coll.begin(), coll.end(),           // range
              AddValue<int>(10));                  // operation
    PRINT_ELEMENTS(coll);

    // add value of first element to each element
    for_each (coll.begin(), coll.end(),           // range
              AddValue<int>(*coll.begin()));      // operation
    PRINT_ELEMENTS(coll);
}

```