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/* The following code example is taken from the book
 * "The C++ Standard Library – A Tutorial and Reference, 2nd Edition"
 * by Nicolai M. Josuttis, Addison-Wesley, 2012
 *
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 * warranty, and with no claim as to its suitability for any purpose.
 */
#include <iostream>
#include <vector>
#include <algorithm>
using namespace std;

int main()
{
    vector<int> coll = { 1, 2, 3, 4, 5, 6, 7, 8 };

    // process and print mean value
    long sum = 0;
    for_each (coll.begin(), coll.end(), // range
              [&sum] (int elem) {
                  sum += elem;
              });
    double mv = static_cast<double>(sum)/static_cast<double>(coll.size());
    cout << "mean value: " << mv << endl;
}

```