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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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 */
#include <iostream>
#include <string>
#include <set>
#include <deque>
#include <algorithm>
#include <memory>

class Item {
private:
    std::string name;
    float price;
public:
    Item (const std::string& n, float p = 0) : name(n), price(p) {
    }
    std::string getName () const {
        return name;
    }
    void setName (const std::string& n) {
        name = n;
    }
    float getPrice () const {
        return price;
    }
    float setPrice (float p) {
        price = p;
    }
};

int main()
{
    std::vector<std::reference_wrapper<Item>> books; // elements are references

    Item f("Faust", 12.99);
    books.push_back(f); // insert book by reference

    // print books:
    for (const auto& book : books) {
        std::cout << book.get().getName() << ": "
                  << book.get().getPrice() << std::endl;
    }

    f.setPrice(9.99); // modify book outside the containers
    std::cout << books[0].get().getPrice() << std::endl; // print price of
inserted book

    // print books using type of the elements (no get() necessary):

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```
    for (const Item& book : books) {  
        std::cout << book.getName() << ": " << book.getPrice() << std::endl;  
    }  
}
```