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// Attached: HW\_9a, HW\_9b

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// Program: HW\_9a

// ========================

// Programmer: Milo Fisher

// Class: CS 1B

// ========================

#include<iostream>

#include<iomanip>

using namespace std;

class Book

{

private:

string isbn;

int year;

double price;

static int bookCount;

public:

Book(){isbn = ""; year = 0; price = 0;}

Book(string isbn, int year, double price){this->isbn = isbn; this->year = year; this->price = price; bookCount++;}

~Book(){}

void displayBook(){cout << "ISBN: " << isbn << "\nYear: " << year << "\nPrice: " << price << endl << endl;}

int getCount(){return bookCount;}

};

int Book::bookCount = 0;

int main()

{

Book b1("0-12345-9", 1990, 12.50);

Book b2("0-54321-9", 2001, 7.75);

Book b3;

double avg;

cout << "Here is book #1:\n";

b1.displayBook();

cout << "Here is book #2:\n";

b2.displayBook();

cout << "There are " << b1.getCount() << " books.\n\n";

return 0;

}

// ============== OUTPUT ================

/\*

Here is book #1:

ISBN: 0-12345-9

Year: 1990

Price: 12.5

Here is book #2:

ISBN: 0-54321-9

Year: 2001

Price: 7.75

There are 2 books.

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// ========================

// Attached: HW\_9a, HW\_9b

// ========================

// Program: HW\_9b

// ========================

// Programmer: Milo Fisher

// Class: CS 1B

// ========================

#include<iostream>

#include<iomanip>

using namespace std;

class Book

{

private:

string isbn;

int year;

double price;

static int bookCount;

public:

Book(){isbn = ""; year = 0; price = 0;}

Book(string isbn, int year, double price){this->isbn = isbn; this->year = year; this->price = price; bookCount++;}

~Book(){}

void displayBook(){cout << "ISBN: " << isbn << "\nYear: " << year << "\nPrice: " << price << endl << endl;}

int getCount(){return bookCount;}

bool operator>(Book b){if(price > b.price){return true;}else{return false;}}

bool operator==(Book b){if(price == b.price){return true;}else{return false;}}

bool operator>(double x){if(price > x){return true;}else{return false;}}

double operator+(Book b){return price + b.price;}

bool operator<(double x){if(year < x){return true;}else{return false;}}

friend ostream& operator<<(ostream&, Book&);

friend istream& operator>>(istream&, Book&);

};

int Book::bookCount = 0;

int main()

{

Book b1("0-12345-9", 1990, 12.50);

Book b2("0-54321-9", 2001, 7.75);

Book b3;

double avg;

cout << "Here is book #1:\n";

b1.displayBook();

cout << "Here is book #2:\n";

b2.displayBook();

cout << "There are " << b1.getCount() << " books.\n\n";

if (b1 > b2) // Use this overloaded function: bool operator>();

cout << "Book #1 has a higher price.\n\n";

else

cout << "Book #1 does not have a higher price.\n\n";

// ------------------------------

if (b1 == b2) // Use this overloaded function: bool operator==();

cout << "Same price.\n\n";

else

cout << "Not the same price.\n\n";

// ------------------------------

if (b2 > 10.00) // Use this overloaded function: bool operator>();

cout << "The price is more than $10.00.\n\n";

else

cout << "The price is not more than $10.00.\n\n";

// ---------------

avg = (b1 + b2) / 2.0; // Use this overloaded function: bool operator+();

cout << "The average book price is " << avg << ".\n\n";

// ---------------

if (b1 < 2000) // Use this overloaded function: bool operator<();

cout << "The book was published before 2000.\n\n";

else

cout << "The book was not published before 2000.\n\n";

// ---------------

cout << b1; // Use this: friend ostream& operator<<();

// ---------------

cout << "\nEnter Book #3 information.\n";

cin >> b3; // Use this: friend istream& operator>>();

// ---------------

cout << "\nHere is what you entered for Book #3:\n";

cout << b3; // Use this: friend ostream& operator<<();

// ---------------

return 0;

}

istream& operator>>(istream& stream, Book& book)

{

cout << "ISBN: ";

stream >> book.isbn;

cout << "Year: ";

stream >> book.year;

cout << "Price: ";

stream >> book.price;

return stream;

}

ostream& operator<<(ostream& stream, Book& book)

{

cout << "ISBN: ";

stream << book.isbn;

cout << "\nYear: ";

stream << book.year;

cout << "\nPrice: ";

stream << book.price;

cout << endl;

return stream;

}

// ============== OUTPUT ================

/\*

Here is book #1:

ISBN: 0-12345-9

Year: 1990

Price: 12.5

Here is book #2:

ISBN: 0-54321-9

Year: 2001

Price: 7.75

There are 2 books.

Book #1 has a higher price.

Not the same price.

The price is not more than $10.00.

The average book price is 10.125.

The book was published before 2000.

ISBN: 0-12345-9

Year: 1990

Price: 12.5

Enter Book #3 information.

ISBN: 0-98765-9

Year: 2004

Price: 5.75

Here is what you entered for Book #3:

ISBN: 0-98765-9

Year: 2004

Price: 5.75

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