Deep Copy

#include <iostream>

#include <cstring>

class Course {

public:

Course(const Course& other)

: courseName(new char[strlen(other.courseName) + 1]), numStudents(other.numStudents) {

strcpy(courseName, other.courseName);

studentIDs = new int[numStudents];

for (int i = 0; i < numStudents; ++i) {

studentIDs[i] = other.studentIDs[i];

}

}

void dropStudent(int studentID) {

}

~Course() {

delete[] courseName;

delete[] studentIDs;

}

private:

char\* courseName;

int\* studentIDs;

int numStudents;

};

int main() {

int students1[] = {101, 102, 103};

Course

Course deepCopy = originalCourse;

// Example of dropping a student

originalCourse.dropStudent(102);

return 0;

}

**Q# 2:**

#include <iostream>

#include <sstream>

#include <string>

#include <iomanip>

using namespace std;

// Function to read product information from the input string

void readProductInfo(const string& inputString, double& totalPrice) {

istringstream inputStream(inputString);

string line;

while (getline(inputStream, line)) {

cout << line << endl;

// Assuming the format is product name, price

size\_t commaPos = line.find(',');

if (commaPos != string::npos) {

string productName = line.substr(0, commaPos);

double price = stod(line.substr(commaPos + 1));

totalPrice += price;

}

}

}

int main() {

// Input string with product information

string inputString = "Vinegar, 25.99\nApples, 12.50\nGrapes, 8.75";

// Total price of the purchase

double totalPrice = 0.0;

// Read and display product information from the input string

readProductInfo(inputString, totalPrice);

// Display total price

cout << fixed << setprecision(2);

cout << "Total Price: $" << totalPrice << endl;

return 0;

}