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#include #include using namespace std; class Passenger { private: string name; char gender;
public: void setPassengerName(string name) { this->name = name; } string
getPassengerName() { return name; } void setGender(char gender) { this->gender = gender; }
char getGender() { return gender; } }; class Engine { private: string type; int horsepower; public:
Engine(string type, int horsepower) { this->type = type; this->horsepower = horsepower; } string
getType() { return type; } int getHorsepower() { return horsepower; } }; class Bus { private: string
busNo; int seatingCapacity; int seatsReservedSoFar; int numPassengers; Passenger*
passengers; Engine* engine; public: Bus() { busNo = ""; seatingCapacity = 0;
seatsReservedSoFar = 0; numPassengers = 0; passengers = NULL; engine = NULL; } void
setBusNo(string bNo) { busNo = bNo; } string getBusNo() { return busNo; } void
setSeatingCapacity(int bCap) { seatingCapacity = bCap; } int getSeatingCapacity() { return
seatingCapacity; } void reserveSeat(Passenger p) { if (seatsReservedSoFar < seatingCapacity)
{ passengers[numPassengers] = p; numPassengers++; seatsReservedSoFar++; } } int
getNumPassengers() { return numPassengers; } void setEngine(Engine* e) { engine = e; } void
displayInfo() { cout << "Bus Information:" << endl; cout << "Bus Number: " << busNo << endl;
cout << "Seating Capacity: " << seatingCapacity << endl; cout << "Seats Reserved So Far: " <<
seatsReservedSoFar << endl; if (engine) { cout << "\nEngine Information:" << endl; cout <<
"Type: " << engine->getType() << endl; cout << "Horsepower: " << engine->getHorsepower() <<
endl; } if (numPassengers > 0) { cout << "\nPassenger Information:" << endl; for (int i = 0; i <
numPassengers; i++) { cout << "Name: " << passengers[i].getPassengerName() << ", Gender: "
<< passengers[i].getGender() << endl; } } }; int main() { Bus bus; std::string busNo; int
seatingCapacity; cout << "Enter Bus Number: "; cin >> busNo; bus.setBusNo(busNo); cout <<
"Enter Seating Capacity of the Bus: "; cin >> seatingCapacity;
bus.setSeatingCapacity(seatingCapacity); string type; int horsepower; cout << "Enter Engine
Type: "; cin >> type; cout << "Enter Engine Horsepower: "; cin >> horsepower; Engine
engine(type, horsepower); bus.setEngine(&engine); char choice; do { Passenger passenger;
string name; char gender; cout << "Enter Passenger Name: "; getline(cin, name);
passenger.setPassengerName(name); cout << "Enter Passenger Gender (M/F): "; cin >>
gender; passenger.setGender(gender); bus.reserveSeat(passenger); cout << "Do you want to
add another passenger? (Y/N): "; cin >> choice; } while (choice == 'Y' || choice == 'y');
bus.displayInfo(); system("Pause"); return 0; }

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