Dillon VanBuskirk

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Homework #4

**Problem Statement:**

The goals of the programming assignment, homework #4, was to design a main program that sells airline seats and design functions for another program that calculates gas and time for a spring break trip. For part a, the functions were given and all that was required was to write the function calls. For part b, I designed a main function that used all the given functions to properly sell specific types of seats on an airplane. Normal inputs to the part a program are characters that are used to determine the seat type and then integer if needed for quantity. Normal inputs for part b are characters for location and vehicle type. They both outputted the cost of said trip. It required error handling to capitalize entered characters and test for equal characters as required.

**Design:**

I used mostly all character data structures that were used for determining location, car type and seat type. Integer data structures were used for quantity of seats for part a. There were no cons in the algorithms that were necessary and it had an important pro because of its simplicity.

**Implementation:**

My implementation process was to work at a steady pace and section off the areas that were required. I started by placing comments on the entire section and then developing parts of the program at a time and gradually uncommenting the program. My development timeline was rather quick, with minor adjustments on error processing.

**Testing:**

I tested this program by using correct inputs that were used in the prompt to ensure it was working correctly and with other simple examples that we solved on paper. Special cases I tested included incorrect inputs, of which the program just prompted again.

**Conclusions:**

The programming project was a success. I wouldn’t change anything in my coding process differently in the future. The project took less than three hours to code the entire thing including the algorithm process and improving simplicity and error correction.

**Typescript:**

**HW4A**

Script started on Mon 09 Mar 2015 09:39:10 PM CDT

]0;csce\_user@cscuser-VirtualBox: ~csce\_user@cscuser-VirtualBox:~$ cd csce/hw4

]0;csce\_user@cscuser-VirtualBox: ~/csce/hw4csce\_user@cscuser-VirtualBox:~/csce/hw4$ g++ -Wall hw4a.cpp -o hw4a.exe

]0;csce\_user@cscuser-VirtualBox: ~/csce/hw4csce\_user@cscuser-VirtualBox:~/csce/hw4$ ./hw4a.exe

Name: Dillon VanBuskirk

UAID: 010688916

The Razorback Airlines offers its patrons an assortment

of seats to fit different budgets.

There are four kinds of seats that the Razorback Airlines offers:

Cargo, Passenger, Business, and First Class seats.

Would you like more information about each seat type? Enter Y or N: n

Which seat would you like to purchase next?

Type C for cargo, P for passenger, B for business, or F for first class: c

--------------------------------------------------------------------------

You have chosen to order one cargo seat (only one seat available at a time).

You will be sitting with all the luggage...

Are you sure you want to purchase this seat? Enter Y or N: y

You have chosen to order one cargo seat.

The seat costs $22.38.

--------------------------------------------------------------------------

Would you like to continue? Enter Y or N: y

The Razorback Airlines offers its patrons an assortment

of seats to fit different budgets.

There are four kinds of seats that the Razorback Airlines offers:

Cargo, Passenger, Business, and First Class seats.

Would you like more information about each seat type? Enter Y or N: y

The Cargo seats are the cheapest, because the seats are located with all of the cargo!

The Passenger seats are a fair price. These seats are where majority of airline passengers sit.

The Business seats are for the travelling executive, because the seats are very comfortable and suited for completing work.

The First Class seats are the most expensive, because the seats are very comfortable, include free food, and luxury massages.

First class seat purchasers can also add other options (souvenirs and Bose headphones) to their purchase.

Which seat would you like to purchase next?

Type C for cargo, P for passenger, B for business, or F for first class: f

--------------------------------------------------------------------------

You have chosen to order one first class seat (only one seat available at a time). You will be sitting with all the celebrities! Maybe you will see Bill Gates!!!!

A first class seat costs: $120.00.

--------------------------------------------------------------------------

----------------------------------------------------------------------------------------------

You have chosen to order First Class seat tickets.

You can add a premium package that includes a souvenir and free Bose Headphones.

This costs $70.00 per ticket.

----------------------------------------------------------------------------------------------

Would you like to add the premium package? Enter Y or N: y

Your First Class seats with the premium upgrade cost $190.00 for 1 seat.

Would you like to continue? Enter Y or N: y

The Razorback Airlines offers its patrons an assortment

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There are four kinds of seats that the Razorback Airlines offers:

Cargo, Passenger, Business, and First Class seats.

Would you like more information about each seat type? Enter Y or N: n

Which seat would you like to purchase next?

Type C for cargo, P for passenger, B for business, or F for first class: f

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You have chosen to order one first class seat (only one seat available at a time). You will be sitting with all the celebrities! Maybe you will see Bill Gates!!!!

A first class seat costs: $120.

--------------------------------------------------------------------------

----------------------------------------------------------------------------------------------

You have chosen to order First Class seat tickets.

You can add a premium package that includes a souvenir and free Bose Headphones.

This costs $70 per ticket.

----------------------------------------------------------------------------------------------

Would you like to add the premium package? Enter Y or N: n

Would you like to continue? Enter Y or N: y

The Razorback Airlines offers its patrons an assortment

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There are four kinds of seats that the Razorback Airlines offers:

Cargo, Passenger, Business, and First Class seats.

Would you like more information about each seat type? Enter Y or N: n

Which seat would you like to purchase next?

Type C for cargo, P for passenger, B for business, or F for first class: p

--------------------------------------------------------------------------

You have chosen to order standard passenger seats.

How many seats would you like to order? 4

--------------------------------------------------------------------------

You have chosen to order 4 Passenger tickets.

Each ticket costs $82.00.

The price for these tickets is $328.00

--------------------------------------------------------------------------

Thank you for purchasing passenger seats.

--------------------------------------------------------------------------

Would you like to continue? Enter Y or N: y

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There are four kinds of seats that the Razorback Airlines offers:

Cargo, Passenger, Business, and First Class seats.

Would you like more information about each seat type? Enter Y or N: n

Which seat would you like to purchase next?

Type C for cargo, P for passenger, B for business, or F for first class: b

--------------------------------------------------------------------------

You have chosen to order business class seats.

How many seats would you like to order? 2

Thank you for purchasing 2 business class seats.--------------------------------------------------------------------------

--------------------------------------------------------------------------

You have chosen to order 2 Business tickets.

Each ticket costs $100.00.

The price for these tickets is $200.00

--------------------------------------------------------------------------

Would you like to continue? Enter Y or N: n

You ordered a total of 9 seat(s) which came to $860.38.

]0;csce\_user@cscuser-VirtualBox: ~/csce/hw4csce\_user@cscuser-VirtualBox:~/csce/hw4$ ./hw4a.exe

Name: Dillon VanBuskirk

UAID: 010688916

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Would you like more information about each seat type? Enter Y or N: y

The Cargo seats are the cheapest, because the seats are located with all of the cargo!

The Passenger seats are a fair price. These seats are where majority of airline passengers sit.

The Business seats are for the travelling executive, because the seats are very comfortable and suited for completing work.

The First Class seats are the most expensive, because the seats are very comfortable, include free food, and luxury massages.

First class seat purchasers can also add other options (souvenirs and Bose headphones) to their purchase.

Which seat would you like to purchase next?

Type C for cargo, P for passenger, B for business, or F for first class: c

--------------------------------------------------------------------------

You have chosen to order one cargo seat (only one seat available at a time).

You will be sitting with all the luggage...

Are you sure you want to purchase this seat? Enter Y or N: y n

You have chosen NOT to purchase a cargo seat.

--------------------------------------------------------------------------

Would you like to continue? Enter Y or N: y

The Razorback Airlines offers its patrons an assortment

of seats to fit different budgets.

There are four kinds of seats that the Razorback Airlines offers:

Cargo, Passenger, Business, and First Class seats.

Would you like more information about each seat type? Enter Y or N: f

Invalid character. Please enter either (Y) for yes or (N) for no.

Would you like more information about each seat type? Enter Y or N: y n

Which seat would you like to purchase next?

Type C for cargo, P for passenger, B for business, or F for first class: f

--------------------------------------------------------------------------

You have chosen to order one first class seat (only one seat available at a time). You will be sitting with all the celebrities! Maybe you will see Bill Gates!!!!

A first class seat costs: $120.

--------------------------------------------------------------------------

----------------------------------------------------------------------------------------------

You have chosen to order First Class seat tickets.

You can add a premium package that includes a souvenir and free Bose Headphones.

This costs $70 per ticket.

----------------------------------------------------------------------------------------------

Would you like to add the premium package? Enter Y or N: y

Your First Class seats with the premium upgrade cost $190.00 for 1 seat.

Would you like to continue? Enter Y or N: n

You ordered a total of 1 seat(s) which came to $190.00.

]0;csce\_user@cscuser-VirtualBox: ~/csce/hw4csce\_user@cscuser-VirtualBox:~/csce/hw4$ ./hw4a.exe

Name: Dillon VanBuskirk

UAID: 010688916

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There are four kinds of seats that the Razorback Airlines offers:

Cargo, Passenger, Business, and First Class seats.

Would you like more information about each seat type? Enter Y or N: n

Which seat would you like to purchase next?

Type C for cargo, P for passenger, B for business, or F for first class: c

--------------------------------------------------------------------------

You have chosen to order one cargo seat (only one seat available at a time).

You will be sitting with all the luggage...

Are you sure you want to purchase this seat? Enter Y or N: y

You have chosen to order one cargo seat.

The seat costs $22.38.

--------------------------------------------------------------------------

Would you like to continue? Enter Y or N: n

You ordered a total of 1 seat(s) which came to $22.38.

]0;csce\_user@cscuser-VirtualBox: ~/csce/hw4csce\_user@cscuser-VirtualBox:~/csce/hw4$ exit

exit

Script done on Mon 09 Mar 2015 09:40:44 PM CDT

**HW4B**

Script started on Tue 10 Mar 2015 10:05:28 PM CDT

]0;csce\_user@cscuser-VirtualBox: ~csce\_user@cscuser-VirtualBox:~$ cd csce/hw4

]0;csce\_user@cscuser-VirtualBox: ~/csce/hw4csce\_user@cscuser-VirtualBox:~/csce/hw4$ g++ hw[K[K-Wall hw4a[Kb.cpp -o hw4b.exe

]0;csce\_user@cscuser-VirtualBox: ~/csce/hw4csce\_user@cscuser-VirtualBox:~/csce/hw4$ ./hw4b.exe

#########################

### Dillon VanBuskirk ###

####### 010688916 #######

#########################

------------------------------------------------------------------------

Spring Break is coming up but you haven't started planning!

We're here to help you choose a vehicle and destination.

Based on your vehicle type and destination we will calculate the number

of gallons needed to get there as well as how much it will cost.

------------------------------------------------------------------------

Enter K for Kansas City, P for Panama City Beach or A for Anchorage.

Where would you like to go?

p

Enter H for Hybrid, C for Car, T for Truck or S for SUV.

Which vehicle would you like to drive?

t

You will need 40.935 gallons which will cost you

$127.72.

It will take you about 11 hours to get to Panama City Beach in a Truck.

]0;csce\_user@cscuser-VirtualBox: ~/csce/hw4csce\_user@cscuser-VirtualBox:~/csce/hw4$ ./hw4b.exe

#########################

### Dillon VanBuskirk ###

####### 010688916 #######

#########################

------------------------------------------------------------------------

Spring Break is coming up but you haven't started planning!

We're here to help you choose a vehicle and destination.

Based on your vehicle type and destination we will calculate the number

of gallons needed to get there as well as how much it will cost.

------------------------------------------------------------------------

Enter K for Kansas City, P for Panama City Beach or A for Anchorage.

Where would you like to go?

u

U is not a valid selection.

Enter K for Kansas City, P for Panama City Beach or A for Anchorage.

k

Enter H for Hybrid, C for Car, T for Truck or S for SUV.

Which vehicle would you like to drive?

u

U is not a valid selection.

Enter H for Hybrid, C for Car, T for Truck or S for SUV.

h

You will need 6.3973 gallons which will cost you

$19.96.

It will take you about 3 hours to get to Kansas City in a Hybrid.

]0;csce\_user@cscuser-VirtualBox: ~/csce/hw4csce\_user@cscuser-VirtualBox:~/csce/hw4$ ./hw4b.exe

#########################

### Dillon VanBuskirk ###

####### 010688916 #######

#########################

------------------------------------------------------------------------

Spring Break is coming up but you haven't started planning!

We're here to help you choose a vehicle and destination.

Based on your vehicle type and destination we will calculate the number

of gallons needed to get there as well as how much it will cost.

------------------------------------------------------------------------

Enter K for Kansas City, P for Panama City Beach or A for Anchorage.

Where would you like to go?

a

Enter H for Hybrid, C for Car, T for Truck or S for SUV.

Which vehicle would you like to drive?

a

A is not a valid selection.

Enter H for Hybrid, C for Car, T for Truck or S for SUV.

s

You will need 163.752 gallons which will cost you

$510.91.

It will take you about 53 hours to get to Anchorage in a SUV.

]0;csce\_user@cscuser-VirtualBox: ~/csce/hw4csce\_user@cscuser-VirtualBox:~/csce/hw4$ exit

Script done on Tue 10 Mar 2015 10:06:34 PM CDT