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| --- |
| Class: Airline |
| Objects:  -string filename  -string finalCompany, finalClass  -int finalStops  -double finalCost  -vector<string> Foundcompany  -vector <string FoundseatClass  -vector <int> FoundnumberOfStops  -vector <double> Foundcost |
| Behaviors:  +Airline()  +setFinal(int index): void  +setFilename(string destination): void  +getFilename(): string  +printTicket(): void  +getCost(): double  +Search(): void |

|  |
| --- |
| Class: Food |
| Objects:  -string filename  -string FinalName, FinalCity, FinalCost  -vector<string>FoundNames  -vector<string>FoundCity  -vector<string>FoundCost |
| Behaviors:  +Food()  +setFilename(string destination): void  +Search(): void  +setFinal(int index): void  +getCost(): string  +printRestuarants(): void |

|  |
| --- |
| Class: Hotel |
| Objects:  -string filename  -string finalHotel, finalCity  -double finalStars, finalCost  -vector<string> FoundHotels  -vector <string> FoundCity  -vector <double> FoundStars  -vector<double> FoundCost |
| Behaviors:  +Hotel()  +setFilename(string destination): void  +setFinal(int index): void  +Search(): void  +printHotels(): void  +getCost(): double |

|  |
| --- |
| Class: ThingsToDo |
| Objects:  -string filename  -string FinalName, FinalCity, FinalCost  -vector<string>FoundNames  -vector<string>FoundCity  -vector<string> FoundCost |
| Behaviors:  +ThingsToDo()  +setFilename(string destination): void  +Search(): void  +setFinal(int choice): void  +getCost(): string  +printActivities(): void |

|  |
| --- |
| Class: TripPlanner |
| Objects:  -string destination  -double budget  -Airline airplaneTicket  -vector<Food>restaurant  -Hotel hotel  -vector <ThingsToDo> activities |
| Behaviors:  +TripPlanner()  +TripPlanner(Airline ticket, Hotel hotel, Food food, ThingsToDo activities)  +setBudget(double budget): void  +getBudget(): double  +setDestination(string destination): void  +getDestination(): string  +DestinationMenu(): void  +setAirline(Airline ticket): void  +setHotel(Hotel hotel): void  +setFood(Food restaurant): void  +setActivities(ThingsToDo activities): void  +calcCost(): double  +printSummary(): void  +underbudget(int index): void  +resetAirplane(), resetHotel(), resetFood(), resetActivities(): void  +compareCost(): bool |

I made several changes to the classes, further simplifying the functions.

It got hard to keep track of all the functions after awhile, so I had to narrow the search options down to just based on budget.

**Topics used in program:**

1. I utilized a lot of ifstream (reading files) and played a lot with strings and learned a lot about the significance of delimiters in text files. Just one tab can cause the line to be read incorrectly.
2. I also used operators to estimate costs for the trip. Because my activities and food classes do not use numerical costs and use symbolic costs, I had to create a system to convert the symbol to a number. By using a single operator, I was able to keep the system constant throughout the whole program.
3. I used a lot of vectors to store my objects and used a lot of vector functions. I thought that vectors are very convenient for storing an unknown sized list.
4. I was surprised at how long the project was. Originally, I had thought the program would just be reading a whole bunch of text files and entering in choices and printing out the choices, but it turned out to be a lot of functions and code.
   1. It was really difficult for me to start the code because I was thinking about small details and started to feel overwhelmed by the amount of coding I realized I needed to do.
   2. I had to really clear my head and start simple. I ended up taking out a lot of my original ideas as I realized I didn’t have the time to implement those functions.
5. If I had to do a version 2, I would definitely implement the functions I originally wanted to do (such as searching by name, city etc.) but didn’t have time to do.
   1. I would also try to find a way to simplify the code and perhaps change the code so that the program doesn’t take up as much space.

