Ruben Carmona – Person One
Brian G. Rodiles Delgado – Person Two
Jose Luis Espinoza Gonzalez – Person Three
April 25, 2023
Dr. Daniel Mejia
PA6

I confirm that the work of this assignment is completely our own. By turning in this assignment, I declare that I did not receive unauthorized assistance. Moreover, all deliverables including, but not limited to the source code, lab report and output files were written and produced by my partner and I, alone.

1. Program Explanation

In this section, explain the overview of the assignment.
What did you do?

- In this PA we as a team had to conduct a code review of each team member and ensure that all functionalities were working as expected and that each of us would understand what the code was doing and their approach. We made some changes to the code for some functionalities and fix some typos.

How did you tackle the problem?

- We reviewed our code again to make sure everything was running smoothly; in this PA we did not have to add many functionalities, so it was a bit faster to tackle this problem.

What techniques did you use to solve the problem?

- Went over our code to assure it was ready for our presentation and did test cases.

Did you break the problem into smaller problems? Explain.

- In this PA we did not since we were not asked to add many functionalities. So, we did not break the problem this time.

2. What did I learn?

What did you learn as a result of this assignment?

- We did learn how we could put our skills into practice when working as a team on a coding project, even though it was small changes for this PA we all contribute to assure the code work.

How can my solution be improved?

- We believe that our approach as of now is a good approach for PA6.

What ideas do I have about another way to solve the problem?

- We as a team do not have other ideas for a different approach compared to the one that we came up with.

How long did it take me to complete this lab assignment?

- On average it took us 1 hour per day.

3. Solution Design

What did I do in this program?

- In this program, we had to implement a senior discount for our code and to see if our code was capable of handling huge CSV files for auto purchase.

What was my approach to solving this problem?

- Testing the program and having a review of what pieces of code would be a better approach for us. Finally testing all methods and the final implementation of our code.

What data structures did I use? Why?

- We used HashMap ArrayList, Arrays to store information during our program and with these be able to retrieve information such as person information, tickets, flight, and discount information.

What assumptions, if any, did I make?

- None

4. Testing

How did I test my program?

- Running multiple times with different scenarios and allowing students and family members to play with the code and see if we could improve our code if they would input something that our code won't handle an exception.

Did I use black-box, white-box testing, or both? Why?

- We used black box testing to make sure we were getting the expected outputs and no errors or exceptions.

Did I test my solution enough? How can my testing practices be improved?

- Yes, we did. Our test practices can be improved by getting with other teams or students from class and comparing their testing approaches, and seeing how we can improve from there.

What are the test cases I used?

- Test cases we used were:
- Making sure the flights were found and inputting unexpected inputs to see if the program will throw exceptions.
- Check if we were storing our ticket list correctly and ensure we could look for and cancel tickets.
- If updated CSV files were created accordingly and the auto purchase was working for all the files provided.
- Checking if discounts, surcharges, and taxes were calculated correctly.
- Made sure that Miner Air members and seniors were detected by the code.

Did I break my program and use that as a way to improve it?

- We did not break the program during this PA.

5. Test results

Log file generated displaying ticket information

```
Thank you for using Miner Airlines, Donald Duck!

--------------------------------------------------------------------------------
Los Angeles International Airport (LAX) --> El Paso International Airport (ELP)
4/27/2023 9:40 PM --> 4/28/2023 12:33 AM

Ticket(s) type: Main Class
Seat(s) purchased: 8
MinerAirlines Fee: $9.15
Security Fee: $44.80
Senior Discount: $23.85
Money Saved: $23.85
Total price: $3990.80
Transaction confirmation number: 2321361603

--------------------------------------------------------------------------------
Los Angeles International Airport (LAX) --> El Paso International Airport (ELP)
7/24/2023 6:45 PM --> 7/24/2023 9:38 PM

Ticket(s) type: Business Class
Seat(s) purchased: 2
MinerAirlines Fee: $9.15
Security Fee: $11.20
Senior Discount: $46.45
Money Saved: $46.45
Total price: $1940.87
Transaction confirmation number: 23614622976
```

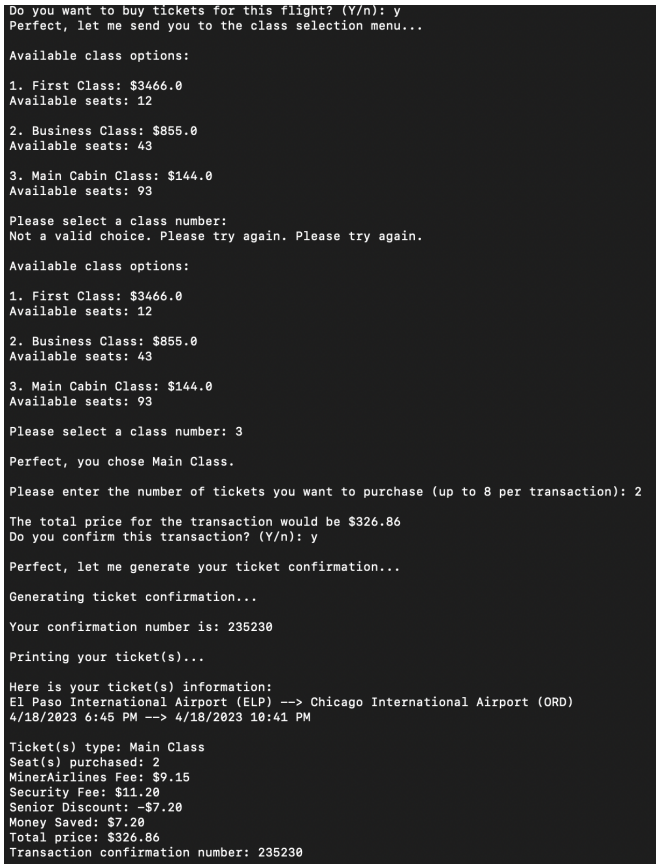
Log file displaying login action

```
1
2   Customer with username danielmejia logged in.
```

Auto Purchase for 100k

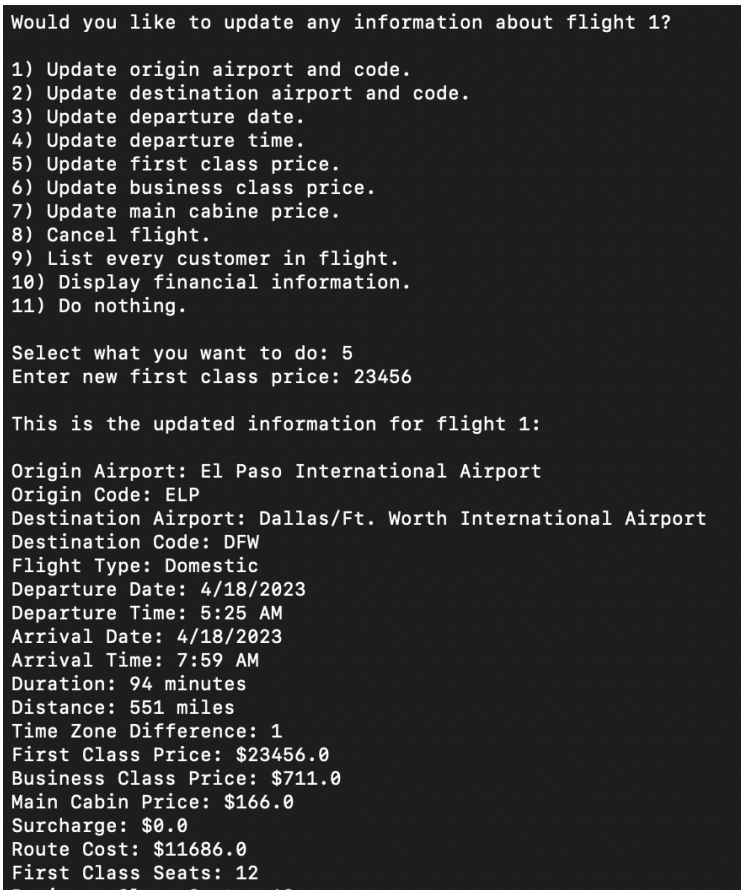
```
1) Go to the update menu.
2) Go to ticketing.
3) Inquire about an airport.
4) Generate an ETS (Electronic Ticket Summary) for a customer.
5) Go to auto transaction menu.
6) Exit the employee menu.

Enter your selection here: 5

Here are the available transaction lists to test:

1) Auto Transaction 10K
2) Auto Transaction 100K
3) Auto Transaction 400K
4) Auto Transaction 800K
5) Auto Transaction 1M

Please enter the list number you want to test: 2

Initializing automatic transactions.

Automatic transactions finalized.
```

Customer buying tickets and showing their discount



```
Do you want to buy tickets for this flight? (Y/n): y
Perfect, let me send you to the class selection menu...

Available class options:

1. First Class: $3466.0
Available seats: 12

2. Business Class: $855.0
Available seats: 43

3. Main Cabin Class: $144.0
Available seats: 93

Please select a class number:
Not a valid choice. Please try again. Please try again.

Available class options:

1. First Class: $3466.0
Available seats: 12

2. Business Class: $855.0
Available seats: 43

3. Main Cabin Class: $144.0
Available seats: 93

Please select a class number: 3

Perfect, you chose Main Class.

Please enter the number of tickets you want to purchase (up to 8 per transaction): 2

The total price for the transaction would be $326.86
Do you confirm this transaction? (Y/n): y

Perfect, let me generate your ticket confirmation...

Generating ticket confirmation...

Your confirmation number is: 235230

Printing your ticket(s)...

Here is your ticket(s) information:
El Paso International Airport (ELP) --> Chicago International Airport (ORD)
4/18/2023 6:45 PM --> 4/18/2023 10:41 PM

Ticket(s) type: Main Class
Seat(s) purchased: 2
MinerAirlines Fee: $9.15
Security Fee: $11.20
Senior Discount: -$7.20
Money Saved: $7.20
Total price: $326.86
Transaction confirmation number: 235230
```

Employee updating price for flight



```
Would you like to update any information about flight 1?

1) Update origin airport and code.
2) Update destination airport and code.
3) Update departure date.
4) Update departure time.
5) Update first class price.
6) Update business class price.
7) Update main cabine price.
8) Cancel flight.
9) List every customer in flight.
10) Display financial information.
11) Do nothing.

Select what you want to do: 5
Enter new first class price: 23456

This is the updated information for flight 1:

Origin Airport: El Paso International Airport
Origin Code: ELP
Destination Airport: Dallas/Ft. Worth International Airport
Destination Code: DFW
Flight Type: Domestic
Departure Date: 4/18/2023
Departure Time: 5:25 AM
Arrival Date: 4/18/2023
Arrival Time: 7:59 AM
Duration: 94 minutes
Distance: 551 miles
Time Zone Difference: 1
First Class Price: $23456.0
Business Class Price: $711.0
Main Cabin Price: $166.0
Surcharge: $0.0
Route Cost: $11686.0
First Class Seats: 12
```

Showing calculation for profit

```
Select what you want to do: 10

Financial Information

First Class Seats Remaining: 12
Business Class Seats Remaining: 40
Main Cabin Seats Remaining: 99
Total Seats Remaining: 151

First Class Seats Sold: 0
Business Class Seats Sold: 0
Main Cabin Seats Sold: 0
Total Seats Sold: 0

Total Miner Airlines Fee collected: 0.00
Total Security Fee collected: $0.00
Total Tax collected: $0.00
First Class Revenue: $0.00
Business Class Revenue: $0.00
Main Cabin Revenue: $0.00
Profit Expected for Flight: $326346.00
Current Profit: $-326346.00
```

6. Code Review

Person One (Ruben Carmona)

How did you feel about your partner's code?

- I did feel good about my teammate's code because I think they did a great job when building their program. We collaborated a lot on this project.

What are some things they did that you liked?

- Speaking of both of my teammates I like how good their ideas and approaches were to get to the solution of the problem.

What were some things they did that you didn't like/didn't agree with?

- I would say that as of now I agreed with my teammates.

How did looking at another person's code change your understanding of the Bank system?

- When I looked at my teammate's code it helped me realize how similar approaches can work in a completely different way and even helped the time complexity of the code. I feel like sometimes it is good to share/compare ideas and brainstorm to come up with better solutions.

Person Two (Brain G. Rodiles Delgado)

How did you feel about your partner's code?

- I felt good with my partner's code because they had a good approach and good handling of exceptions also, for this last part of the project how we were able to get to the solution.

What are some things they did that you liked?

- I like how they have their code organized and easy to read.

What were some things they did that you didn't like/didn't agree with?

- For this PA there was not something I would say I did not like.

How did looking at another person's code change your understanding of the Bank system?

- It helped me understand how the value of sharing ideas could lead to great teamwork and great results and how we can learn from others

Person Three (Jose Luis Espinoza Gonazalez)

How did you feel about your partner's code?

- We had similar coding styles and what I like about their code is that they have a good approach and it was easy to follow.

What are some things they did that you liked?

- How they came up with some good approaches and how I learned from them some code techniques.

What were some things they did that you didn't like/didn't agree with?

- I would say that the communication between classes could be improved.

How did looking at another person's code change your understanding of the Bank system?-

- How working together can improve outcomes and foster effective teamwork.

7. Reflection

Describe the process of combining code

- At first, we could say that it was hard to know where to start merging the code but we first run each other's code to see how each of them would behave and from there we break them into parts and check what pieces of code were better for each task asked.

Describe the process of understanding your partners code

- We could say that for some parts it was easy to understand the code because as mentioned before some approaches were similar but in some parts, it was hard to understand because the approach was not clear.

Describe the problems you faced, and how you solved them

- Issues we faced were that when merging the codes, errors and exceptions would appear constantly, and as we would fix some bugs and merge more code we would get another error but, we could say that most of the time were simple errors that could be fixed on the spot.

8. Demo of another team

Who demo'd to you?

- Team 1

Did you understand their process to perform tasks?

- Yes, the javadoc was easy to read and pretty straight forward on how the code was working on each class and method

Did they provide you with Javadoc?

- Yes we were able to access they web page generated by the javadoc

Did you break their code? How?

- We were not able to break, all functionalities and exceptions were met.

Did they meet all functionality requirements?

- Yes they did.

9. Demo for another team

Who did you demo with?

- Team 1

Did you provide them with enough information in the console prompts?

- Yes we did, our outputs and prompts on the terminal were easy to follow thru.

Did you provide them with Javadoc?

- Yes we did.

Did they break your code? What did you learn from it?

- Not this time, we fixed all functionalities and exceptions.

Did you meet all the functionality requirements?

- Yes, we did meet all functionality requirements.

Person One (Ruben Carmona)

What did I do to contribute to this?

- I contributed by giving ideas on how to improve our project for the final presentation and how to make look more clean

How did I help solve the problem?

- By doing reviews of the code and made sure classes and objects had a good relationship in between

How much did I do in this assignment?

- We divided the work evenly so each of us did 33% of the assignment.

What did I learn from working with a teammate?

- How we can learn a lot from others and how we can really improve our skills when there are more people at the table.

Person Two (Brain G. Rodiles Delgado)

What did I do to contribute to this?

- Provided functional code segments for the team project and additionally offered valuable ideas for enhancing the team's solution to make sure that in the end, we had everything running smoothly.

How did I help solve the problem?

- By conducting regular code testing through code reviews and identifying issues within the project.

How much did I do in this assignment?

- We distributed the workload evenly among my teammates. I helped with merging code segments and completed my portion of the report.

What did I learn from working with a teammate?

- It was good to work in teams, collaborating with others allowed me to learn from their perspective and benefit from their guidance for improvement.

Person Three (Jose Luis Espinoza Gonzalez)

What did I do to contribute to this?

- By delivering useful information to the team on how to improve our project and how could we implement what we were asked to do on PA6

How did I help solve the problem?

- By performing code reviews and testing on our program and by identifying issues that would come along the way.

How much did I do in this assignment?

- We divided the work equally so I did the same amount of work as my teammates.

What did I learn from working with a teammate?

- Being able to accept different points of view, learn from them, and enhance my skills and performance.