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Dr. Mejia
Programming Assignment 3

I confirm that the work of this assignment is completely my 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 me alone.

1. Program Explanation

On this assignment we were asked to build on top of programming assignment 2 which was the application that handles the basic functionality of a bank by reading a specifically formatted csv file and then store the information into instances of classes that represented the Customers and Accounts and then we should be able to do the proper user interface for the user and do the proper calculations. However, this code was not as expansible it did not follow many of the SOLID principles for object-oriented programming for the code to be easier to expand maintain and debug.

For this assignment we will add more functionality to the program. This time the csv file would have the columns randomize which the program should be able the reading of the file in the correct order. Also the application should be able to handle the reading of a file which will have actions that will make the program make the correct transaction and store all the transactions for every user this transactions should then be able to be use by the Manager once they sign in into the program and then create an Account Statement for an specific user that they can select by typing their name.

To extend the code and then be able to add the extra functionality I needed to do some refactor into the code. First in order to make the classes of Account and Customer have only a single responsibility I started to throw exceptions is the input that came from the outside was not valid this is good because the code does not worry about the outside input.

In order to handle all the functionality we needed to store a lot of information such as all the customers the accounts and then the history of their transactions so in order to store everything I made an Interface for a Bank database which will store all the information and simplify the querying of information in and out of the class it does not matter how the class is implemented as long as it has the methods of the interface. Finally, I add the functionality of reading the file transaction actions file and making the account statements by using this bank database instance.

2. What did I learn?

This assignment taught me a lot of new concepts and good practices that follow the SOLID principles. First the use of interfaces was a great concept to learn specially for dependency injection that is when an object depends on another it is better to pass an abstraction with things that the object actually needs in order to work rather than something concrete. There were many

of possible design patterns that could have been use in order to help in the construction of the bank and the one that I think suited the best to this project was the Model View Controller because the projects needs a model of data which would be the Users and Accounts store inside the database file. It needs some sort of controller that handles the user input and does the appropriate action that would be the run bank class which handles all the menus in an infinite loop waiting for the user input and the Views would be the menus themselves and the display of the data.

At first, I wanted to the Singleton design pattern in order to have save the date in a one-time instanced static class the would store all the data and make it available throughout all the application, also then I thought about using the iterator pattern in order to traverse to the list of customers or transactions but at the end I use the MVC design and created all the data inside the bankDB and then inject an abstract interface dependency into the class that need to use the data in order for the classes to not depend on a concrete implementation. I think MVC was good for this project but even the view was big so many functions made it hard to read such a long file.

3. Solution Design

To make my code more readable and extensible. The use of an interface to manage all the account queries was a nice idea to encapsulate the implementation of the database class for this reason the run bank class which is simulating the controller by choosing what actions to do depending on the user input and then asking the database to do those actions does not need to have an specific implementation but a more abstract implementation of a storage of information which would be like the model of the program.

The reason why I decided to use this implementation of the bank to store information is because our bank need a lot of information and the information is being constantly updated by doing transactions we need to store both the transactions and then update the customer's account according to the transaction this bank is a class that holds hash tables in order to access the information faster but if any user want to implemented differently such as using list they would just need implement the bank interface to have the necessary method for the classes that use this to work.

4. Testing

For all those methods that are really independent such as Account or Customer where the methods only required to update a certain amount of money depending on what they are ask to do I decided to use white box testing using Junit 4 which allows to test every method on this account and then tell us the programmers where the error failed and what test case it failed. There was also a lot more white-box testing than in the previous method because in this programming assignment we needed to both write files that would represent the actions of all the users and the bank statements for specific users. Then we also needed to use a file that would represent actions such as deposits withdrawals or transfers of money. Since there was not much time to test file creation using Junit the most efficient way to test it for now was to see the

program was able to handle the transactions correctly and created the correct files depending on the processed transactions.

One last source of white box testing that we use in our program was to test the program with a partner and for this time my partner was Eduardo Garcia whose lab I demoed as well. While demoing his lab I noticed that almost everything worked but when a customer did not have an account created the message to the user would said that he did not have a Savings account even though the selected account was Credit also at the end of the demo when asking to create a bank statement for this new customer the statement was not generated which would probably be fixed later. When Eduardo tested my demo the creation of a user without a Credit account did not worked and threw an exception to the user then after creating an account with 0 as the balance the user would be trap into an infinite loop because the user cannot pay the anything to another person.

5. Test results

After fixing all the previous errors from the demo with Eduardo I started to test everything again to see if my code still has error such as bugs or just simple logic mistakes.

Transactions reader testing

The transactions reader worked with the given csv file and it should work no matter of the order that this one comes like. After entering the name of the file that contains the user information and then input that the user wants to read the transaction file the output was the following.

Menu:

Welcome to DisneyBank

Enter file name with information: BankUsers3.csv

Successfully entered data

Sign in as:

- A) Manager
- B) Customer
- C) Transaction Reader
- D) Create new customer
- E) Exit

C

Enter file name: Transaction Actions.csv

Output: transactions.

```
Disney Bank transaction file
Mickey Mouse transferred $100.00 to Donald Duck. Checking-1000 balance: $303.12
Mickey Mouse transferred $400.00 from Savings-2000 to Checking-1000. Savings balance:
$4079.46. Checking-1000 balance: $703.12
Mickey Mouse made a balance inquire. Checking: $703.12 Savings: $4079.46 Credit: $-
```

1653.84
 Mickey Mouse withdrew \$100.00 from Checking-1000. New balance: 4603.12
 Mickey Mouse deposited \$500.00 on Savings-2000. New balance: 44579.46
 Mickey Mouse transferred \$300.00 from Savings-2000 to Credit-3000. Savings balance: \$4279.46. Credit-3000 balance: \$-1353.84
 Alberto Miranda deposited \$5000.00 on Checking-1036. New balance: 45474.59
 Alex Avila deposited \$5000.00 on Checking-1037. New balance: 45085.09
 Alfonso Beltran deposited \$5000.00 on Checking-1038. New balance: 45474.39
 Alfredo Rodriguez deposited \$5000.00 on Checking-1039. New balance: 46772.98
 Alyssandra Cordero deposited \$5000.00 on Checking-1040. New balance: 46169.49
 Anthony Jasso deposited \$5000.00 on Checking-1041. New balance: 45661.74
 Arae Zarzosa deposited \$5000.00 on Checking-1042. New balance: 46994.56
 Brandon Bustamante deposited \$5000.00 on Checking-1043. New balance: 45355.39
 Cesar Cabrera deposited \$5000.00 on Checking-1044. New balance: 46806.19
 Christopher Reyes deposited \$5000.00 on Checking-1045. New balance: 46330.23
 Dafne Bencomo deposited \$5000.00 on Checking-1046. New balance: 45519.88
 David Baptiste deposited \$5000.00 on Checking-1047. New balance: 46076.98
 Derek Aguirre deposited \$5000.00 on Checking-1048. New balance: 46845.56
 Eduardo Garcia deposited \$5000.00 on Checking-1049. New balance: 46243.42
 Ervey Montes deposited \$5000.00 on Checking-1050. New balance: 46584.85
 Estevan Ramos deposited \$5000.00 on Checking-1051. New balance: 45760.91
 Federico Marin deposited \$5000.00 on Checking-1052. New balance: 46917.27
 Gavin Baechle deposited \$5000.00 on Checking-1053. New balance: 46734.37
 Gildardo Orea deposited \$5000.00 on Checking-1054. New balance: 45291.85
 Grecia Navarrete deposited \$5000.00 on Checking-1055. New balance: 46622.04
 Hernan Garcia deposited \$5000.00 on Checking-1056. New balance: 45135.23
 Isaiah Landin deposited \$5000.00 on Checking-1057. New balance: 46816.52
 Jose Rodriguez Ortega deposited \$5000.00 on Checking-1058. New balance: 45398.46
 Joseph Medina - Sandoval deposited \$5000.00 on Checking-1059. New balance: 45903.51
 Juan Gutierrez deposited \$5000.00 on Checking-1060. New balance: 45526.23
 Juan Rabelo deposited \$5000.00 on Checking-1061. New balance: 46851.26
 Judith Garcia deposited \$5000.00 on Checking-1062. New balance: 46740.54
 Laura Blanco deposited \$5000.00 on Checking-1063. New balance: 46506.74
 Laurence Labayen deposited \$5000.00 on Checking-1064. New balance: 46079.13
 Lidice Castro Jimenez deposited \$5000.00 on Checking-1065. New balance: 46942.67
 Manuel Melendez Lujan deposited \$5000.00 on Checking-1066. New balance: 46311.35
 Manuel Ruvalcaba deposited \$5000.00 on Checking-1067. New balance: 45870.60
 Mauricio Ornelas-Gutierrez deposited \$5000.00 on Checking-1068. New balance: 45192.14
 Minh Dang deposited \$5000.00 on Checking-1069. New balance: 45623.42
 Oscar Decena deposited \$5000.00 on Checking-1070. New balance: 46450.22
 Robert Evans deposited \$5000.00 on Checking-1071. New balance: 46223.55
 Roberto Carrasco deposited \$5000.00 on Checking-1072. New balance: 46152.39
 Sofia Hernandez deposited \$5000.00 on Checking-1073. New balance: 46515.79
 Yulianna Torres deposited \$5000.00 on Checking-1074. New balance: 46035.19
 Alberto Miranda transferred \$1000.00 to Daniel Mejia. Checking-1036 balance: \$4474.59
 Alex Avila transferred \$1000.00 to Daniel Mejia. Checking-1037 balance: \$4085.09
 Alfonso Beltran transferred \$1000.00 to Daniel Mejia. Checking-1038 balance: \$4474.39
 Alfredo Rodriguez transferred \$1000.00 to Daniel Mejia. Checking-1039 balance: \$5772.98
 Alyssandra Cordero transferred \$1000.00 to Daniel Mejia. Checking-1040 balance: \$5169.49
 Anthony Jasso transferred \$1000.00 to Daniel Mejia. Checking-1041 balance: \$4661.74
 Arae Zarzosa transferred \$1000.00 to Daniel Mejia. Checking-1042 balance: \$5994.56
 Brandon Bustamante transferred \$1000.00 to Daniel Mejia. Checking-1043 balance: \$4355.39
 Cesar Cabrera transferred \$1000.00 to Daniel Mejia. Checking-1044 balance: \$5806.19
 Christopher Reyes transferred \$1000.00 to Daniel Mejia. Checking-1045 balance: \$5330.23
 Dafne Bencomo transferred \$1000.00 to Daniel Mejia. Checking-1046 balance: \$4519.88
 David Baptiste transferred \$1000.00 to Daniel Mejia. Checking-1047 balance: \$5076.98
 Derek Aguirre transferred \$1000.00 to Daniel Mejia. Checking-1048 balance: \$5845.56
 Eduardo Garcia transferred \$1000.00 to Daniel Mejia. Checking-1049 balance: \$5243.42
 Ervey Montes transferred \$1000.00 to Daniel Mejia. Checking-1050 balance: \$5584.85

Estevan Ramos transferred \$1000.00 to Daniel Mejia. Checking-1051 balance: \$4760.91
 Federico Marin transferred \$1000.00 to Daniel Mejia. Checking-1052 balance: \$5917.27
 Gavin Baechle transferred \$1000.00 to Daniel Mejia. Checking-1053 balance: \$5734.37
 Gildardo Orea transferred \$1000.00 to Daniel Mejia. Checking-1054 balance: \$4291.85
 Grecia Navarrete transferred \$1000.00 to Daniel Mejia. Checking-1055 balance: \$5622.04
 Hernan Garcia transferred \$1000.00 to Daniel Mejia. Checking-1056 balance: \$4135.23
 Isaiah Landin transferred \$1000.00 to Daniel Mejia. Checking-1057 balance: \$5816.52
 Jose Rodriguez Ortega transferred \$1000.00 to Daniel Mejia. Checking-1058 balance: \$4398.46
 Joseph Medina - Sandoval transferred \$1000.00 to Daniel Mejia. Checking-1059 balance: \$4903.51
 Juan Gutierrez transferred \$1000.00 to Daniel Mejia. Checking-1060 balance: \$4526.23
 Juan Rabelo transferred \$1000.00 to Daniel Mejia. Checking-1061 balance: \$5851.26
 Judith Garcia transferred \$1000.00 to Daniel Mejia. Checking-1062 balance: \$5740.54
 Laura Blanco transferred \$1000.00 to Daniel Mejia. Checking-1063 balance: \$5506.74
 Laurence Labayen transferred \$1000.00 to Daniel Mejia. Checking-1064 balance: \$5079.13
 Lidice Castro Jimenez transferred \$1000.00 to Daniel Mejia. Checking-1065 balance: \$5942.67
 Manuel Melendez Lujan transferred \$1000.00 to Daniel Mejia. Checking-1066 balance: \$5311.35
 Manuel Ruvalcaba transferred \$1000.00 to Daniel Mejia. Checking-1067 balance: \$4870.60
 Mauricio Ornelas-Gutierrez transferred \$1000.00 to Daniel Mejia. Checking-1068 balance: \$4192.14
 Minh Dang transferred \$1000.00 to Daniel Mejia. Checking-1069 balance: \$4623.42
 Oscar Decena transferred \$1000.00 to Daniel Mejia. Checking-1070 balance: \$5450.22
 Robert Evans transferred \$1000.00 to Daniel Mejia. Checking-1071 balance: \$5223.55
 Roberto Carrasco transferred \$1000.00 to Daniel Mejia. Checking-1072 balance: \$5152.39
 Sofia Hernandez transferred \$1000.00 to Daniel Mejia. Checking-1073 balance: \$5515.79
 Yulianna Torres transferred \$1000.00 to Daniel Mejia. Checking-1074 balance: \$5035.19
 Daniel Mejia made a balance inquire. Checking: \$40887.12 Savings: \$2051.62 Credit: \$-1231.96
 Mickey Mouse withdrew \$100.00 from Savings-2000. New balance: 44179.46
 Donald Duck transferred \$48.46 to Alberto Miranda. Checking-1001 balance: \$1980.12
 Minnie Mouse withdrew \$79.00 from Savings-2002. New balance: 4248.99
 Goofy Disney transferred \$15.63 to Alfonso Beltran. Checking-1003 balance: \$1441.06
 Pluto Disney withdrew \$77.00 from Savings-2004. New balance: 41545.73
 Not enough funds to withdraw in transaction: Chip, Disney, Checking, pays, Alyssandra, Cordero, Checking, 50.99
 Dale Disney withdrew \$54.00 from Savings-2006. New balance: 44037.61
 Cinderella Disney transferred \$28.81 to Arae Zarzosa. Checking-1007 balance: \$886.73
 Ariel Disney withdrew \$57.00 from Savings-2008. New balance: 4672.50
 Jasmine Disney transferred \$28.89 to Cesar Cabrera. Checking-1009 balance: \$605.05
 Aladdin Disney withdrew \$94.00 from Savings-2010. New balance: 43337.15
 Simba Disney transferred \$39.29 to Dafne Bencomo. Checking-1011 balance: \$1297.50
 Mufasa Disney withdrew \$67.00 from Savings-2012. New balance: 43779.05
 Aurora Disney transferred \$34.47 to Derek Aguirre. Checking-1013 balance: \$308.98
 Peter Pan withdrew \$100.00 from Savings-2014. New balance: 42152.52
 Woody Disney transferred \$34.04 to Ervey Montes. Checking-1015 balance: \$224.02
 Not enough funds to withdraw in transaction: Buzz, Lightyear, Savings, withdraws, , , Savings, 90
 Jafar Aladdin transferred \$12.36 to Federico Marin. Checking-1017 balance: \$505.71
 Ursula Mermaid withdrew \$56.00 from Savings-2018. New balance: 41447.63
 Beast Disney transferred \$26.84 to Gildardo Orea. Checking-1019 balance: \$1822.19
 Belle Disney withdrew \$88.00 from Savings-2020. New balance: 42346.75
 Cruella De Vil transferred \$34.70 to Hernan Garcia. Checking-1021 balance: \$1097.91
 Scar Lion withdrew \$65.00 from Savings-2022. New balance: 44261.32
 Simba King transferred \$11.31 to Jose Rodriguez Ortega. Checking-1023 balance: \$1460.74
 Gaston Disney withdrew \$78.00 from Savings-2024. New balance: 4916.47
 Shere Khan transferred \$41.20 to Juan Gutierrez. Checking-1025 balance: \$647.57
 Captain Hook withdrew \$86.00 from Savings-2026. New balance: 43209.28
 Kaa Disney transferred \$11.83 to Judith Garcia. Checking-1027 balance: \$916.93
 Evil Queen withdrew \$86.00 from Savings-2028. New balance: 44758.83

Pinocchio Disney transferred \$34.11 to Laurence Labayen. Checking-1029 balance: \$1246.66
 Prince Eric withdrew \$57.00 from Savings-2030. New balance: 44448.00
 Quasimodo Disney transferred \$25.58 to Manuel Melendez Lujan. Checking-1031 balance: \$457.99
 Hercules Disney withdrew \$85.00 from Savings-2032. New balance: 41303.27
 Mulan Disney transferred \$36.48 to Mauricio Ornelas-Gutierrez. Checking-1033 balance: \$1737.78
 Lilo Disney withdrew \$59.00 from Savings-2034. New balance: 41883.89
 Stitch Disney transferred \$29.25 to Oscar Decena. Checking-1035 balance: \$358.07
 Gaston Disney withdrew \$74.00 from Savings-2024. New balance: 4842.47
 Mickey Mouse transferred \$17.97 to Roberto Carrasco. Checking-1000 balance: \$585.15
 Donald Duck withdrew \$91.00 from Savings-2001. New balance: 43491.37
 Minnie Mouse transferred \$29.50 to Yulianna Torres. Checking-1002 balance: \$1864.66
 Goofy Disney withdrew \$81.00 from Savings-2003. New balance: 4803.26
 Pluto Disney transferred \$39.92 to Alex Avila. Checking-1004 balance: \$1509.75
 Chip Disney withdrew \$75.00 from Savings-2005. New balance: 43612.14
 Dale Disney transferred \$50.39 to Alfredo Rodriguez. Checking-1006 balance: \$843.71
 Cinderella Disney withdrew \$79.00 from Savings-2007. New balance: 42898.94
 Ariel Disney transferred \$46.88 to Anthony Jasso. Checking-1008 balance: \$1535.09
 Jasmine Disney withdrew \$59.00 from Savings-2009. New balance: 41028.10
 Aladdin Disney transferred \$25.16 to Brandon Bustamante. Checking-1010 balance: \$115.62
 Simba Disney withdrew \$100.00 from Savings-2011. New balance: 4273.47
 Mufassa Disney transferred \$33.54 to Christopher Reyes. Checking-1012 balance: \$115.14
 Mickey Mouse transferred \$48.46 to David Baptiste. Checking-1000 balance: \$585.15
 Donald Duck withdrew \$79.00 from Checking-1001. New balance: 41901.12
 Minnie Mouse transferred \$15.63 to Eduardo Garcia. Checking-1002 balance: \$1864.66
 Goofy Disney withdrew \$77.00 from Checking-1003. New balance: 41364.06
 Pluto Disney transferred \$50.99 to Estevan Ramos. Checking-1004 balance: \$1509.75
 Not enough funds to withdraw in transaction: Chip, Disney, Checking, withdraws, , , Savings, 54
 Dale Disney transferred \$28.81 to Gavin Baechle. Checking-1006 balance: \$843.71
 Cinderella Disney withdrew \$57.00 from Checking-1007. New balance: 4829.73
 Ariel Disney transferred \$28.89 to Grecia Navarrete. Checking-1008 balance: \$1535.09
 Jasmine Disney withdrew \$94.00 from Checking-1009. New balance: 4511.05
 Aladdin Disney transferred \$39.29 to Isaiah Landin. Checking-1010 balance: \$115.62
 Simba Disney withdrew \$67.00 from Checking-1011. New balance: 41230.50
 Mufassa Disney transferred \$34.47 to Joseph Medina - Sandoval. Checking-1012 balance: \$115.14
 Aurora Disney withdrew \$100.00 from Checking-1013. New balance: 4208.98
 Peter Pan transferred \$34.04 to Juan Rabelo. Checking-1014 balance: \$41.62
 Woody Disney withdrew \$90.00 from Checking-1015. New balance: 4134.02
 Buzz Lightyear transferred \$12.36 to Laura Blanco. Checking-1016 balance: \$629.61
 Jafar Aladdin withdrew \$56.00 from Checking-1017. New balance: 4449.71
 Ursula Mermaid transferred \$26.84 to Lidice Castro Jimenez. Checking-1018 balance: \$1333.17
 Beast Disney withdrew \$88.00 from Checking-1019. New balance: 41734.19
 Belle Disney transferred \$34.70 to Manuel Ruvalcaba. Checking-1020 balance: \$517.81
 Cruella De Vil withdrew \$65.00 from Checking-1021. New balance: 41032.91
 Scar Lion transferred \$11.31 to Minh Dang. Checking-1022 balance: \$941.51
 Simba King withdrew \$78.00 from Checking-1023. New balance: 41382.74
 Gaston Disney transferred \$41.20 to Robert Evans. Checking-1024 balance: \$168.24
 Shere Khan withdrew \$86.00 from Checking-1025. New balance: 4561.57
 Captain Hook transferred \$11.83 to Sofia Hernandez. Checking-1026 balance: \$369.27
 Kaa Disney withdrew \$86.00 from Checking-1027. New balance: 4830.93

Create new Customer

To test the creation of a new customer and a new Bank statement after the user decides to do many transactions. I created the character of Mario Bros without a Credit account and make some transactions to test if the account still worked. The instruction other was the following with the Bank statement.

Welcome to DisneyBank

Enter file name with information: BankUsers3.csv

Successfully entered data

Sign in as:

- A) Manager
- B) Customer
- C) Transaction Reader
- D) Create new customer
- E) Exit

D

Enter your information below

First Name: Mario

Last Name: Bros

Date of Birth: 01/01/1985

Address: Mushroom Kingdom

Phone Number: 1112223333

Congrats Mario Bros your account was successfully created

We have created a Savings account for you with the id 2103

Do you want to create a Checking account?

- A) yes
- B) no

A

Do you want to create a Credit account?

- A) yes
- B) no

B

Sign in as:

- A) Manager
- B) Customer
- C) Transaction Reader
- D) Create new customer
- E) Exit

B

What is your name?

Mario Bros

Welcome Mario Bros

Costumer Information:

Full Name: Mario Bros

Date of birth: 01/01/1985

Address: Mushroom Kingdom

Phone: 1112223333

ID: 104

Checking:

Account Number: 1103

Balance: \$0.00

Savings:

Account Number: 2103

Balance: \$0.00

What would you like to do?

- A. Inquire
- B. Deposit
- C. Withdraw
- D. Transfer money
- E. Send Money to another person
- F. Sign in page

B

Choose account to deposit your money

- A. Checking
- B. Savings
- C. Credit

A

How much money do you want to deposit?

500

Successfully deposited \$500.00 to Checking

What would you like to do?

- A. Inquire
- B. Deposit
- C. Withdraw
- D. Transfer money
- E. Send Money to another person
- F. Sign in page

D

Choose account to transfer money from

- A. Checking
- B. Savings

A

What account do you want to transfer to?

- A. Savings
- B. Credit

A

How much money do you want to transfer?

99.99

Successfully transferred \$99.99 from Checking to Savings

What would you like to do?

- A. Inquire
- B. Deposit
- C. Withdraw
- D. Transfer money
- E. Send Money to another person
- F. Sign in page

E

Who would you like to send money to?

Daniel Mejia

How much money do you want to send?

59.99

Successfully transferred \$59.99 to Daniel Mejia

What would you like to do?

- A. Inquire
- B. Deposit
- C. Withdraw
- D. Transfer money
- E. Send Money to another person
- F. Sign in page

F

Sign in as:

- A) Manager
- B) Customer
- C) Transaction Reader
- D) Create new customer

E) Exit

A

You signed in as a manager

What would you like to do?

- A. Inquire account by name
- B. Inquire account by type/number
- C. Generate Bank Statement
- D. Sign in page

C

Whose bank statement do you want to create?

Mario Bros

What would you like to do?

- A. Inquire account by name
- B. Inquire account by type/number
- C. Generate Bank Statement
- D. Sign in page

D

Sign in as:

- A) Manager
- B) Customer
- C) Transaction Reader
- D) Create new customer
- E) Exit

E

Thank you for coming!

Bank Statement: Mario Bros

```
Disney Bank Mario Bros statement!Name: Mario Bros
Identification Number: 104
Date of Birth: 01/01/1985
Address: Mushroom Kingdom
Phone Number: Mushroom Kingdom
Account: Checking-1103
Starting Balance: $0.0
Ending Balance: $340.02
Account: Savings-2103
Starting Balance: $0.0
Ending Balance: $340.02

Mario Bros deposited $500.00 on Checking-1103. New balance: 4500.00
2020/10/19 21:55:45
Mario Bros transferred $99.99 from Checking-1103 to Savings-2103. Checking balance:
$400.01. Savings-2103 balance: $99.99
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```
2020/10/19 21:56:33
Mario Bros transferred $59.99 to Daniel Mejia. Checking-1103 balance: $340.02
2020/10/19 21:56:55
```