

Assignment 5 Instructions

1. Assignment 05: **40 points total with 2 E.C. points** (For class participation, for extra work helping others in class, for not being late on submitting your assignment.)
2. Due Date & Time: **10/12/2020 at 11:59 PM**

WHAT TO SUBMIT

Submit 4 files to iLearn by the deadline. [38pts + 2 E.C. pts = 40 points]

- 1 Java File: Please submit 1 files to iLearn: **CoffeeShopAccount.java[30 points]**
- 1 PDF File: Submit 1 Word/PDF file which is a filled-out, downloaded local copy of this Google page on your local computer, named "firstname-lastname-assignment-5-report.pdf". Fill this out with screenshots then save it as Word or PDF
- 1 Reflection with a Buddy on iLearn
- 1 Extra Credit Post: Ask and Answer a question on iLearn

HOW TO SUBMIT

Please upload all 2 files separately via iLearn Assignments Submission

GUIDELINES FOR **ALL ASSIGNMENTS**:

1. Each assignment includes a code portion and a non-code portion. Please submit both 2 portions.
 - a. Code portion: Your source code files, only the files which you create and edit.
 - b. Non-code portion: Your assignment report, only 1 **Word** or **PDF** file.
2. Please submit all required files separately, un-zipped, via iLearn Assignments Submission
3. Always **read through the entire assignment before starting and submitting any of it. Missing files or missing requirements will result in deducted points**
4. **a. Include a proper header at the top of every Java file. Figure 1**

Header Format

```
/*  
  
* Assignment <assignment number>  
  
* Description: <program description>  
  
* Name: <your name>  
  
* ID: <your SFSU ID number>  
  
* Class: CSC 210-<section number>  
  
* Semester: <current semester>  
  
*/
```

Replace each tag (such as **<assignment number>**) with the appropriate text.

You should adhere to this format as closely as possible. You do not need to include the **<>** symbols in your header fields.

b. Only if you work with a Study Buddy, include your Buddy's name in your header at the top of every Java file. Figure 1

Header Format
<pre>/* * Assignment <assignment number> * Description: <program description> * Name: <your name> * Teammate: <Study Buddy name> * ID: <your SFSU ID number> * Class: CSC 210-<section number> * Semester: <current semester> */</pre>

Assignment 5

COFFEE SHOP ACCOUNTING OPERATIONS

☐ Part 1: CoffeeShopAccount [25 points]

File Name: CoffeeShopAccount.java

Problem Description:

You are an owner of a small coffee shop and you want to keep tabs of your shop's balance, money in, money out and have a very light security using 4 digit PIN.

Write a program to perform the following operations:

1. Check balance: This operation should display total losses or profit available, can be negative or positive
2. Money in: This operation should pay down any debt or add to the profit
3. Money out: This operation should subtract the amount from the available balance
4. Set or change a 4 digit PIN number: This operation should change the 4 digit pin number
5. Exit: Terminate the program execution

Functional requirements:

User shall be able to :

1. Choose from the menu what action to perform
2. Add money into the balance, and see their ending balance. Can be positive/ negative
3. Extract money from the balance, and see their ending balance. Can be positive/ negative.
4. Set up a 4-digit PIN
5. Exit immediately when the option to exit is chosen

Tips:

1. **All the methods are mainly updating the main Balance, except the update PIN method.** Balance therefore will be a value that needs to be access by all methods, therefore it needs to be passed into the method as a parameter
2. You can use `System.out.print(" with \n ");` to format your menus and use `System.out.printf("... to print out your $ dollar amount using 2 decimals after decimal point .2f and %n for a new line", value);`
3. Create your program using the following best practice:
First: // Type out the steps to creating your program, be specific in what needs to be global, or local, and inside or outside the loop
Second: Create your code as if you don't have any methods. Test that it is working first before creating methods.
Third: Copy and paste your code from main into your various methods. Test that it is still working as expected.
4. Variables, we will consider them global, to declare in the main method: balance, pin, which can be accessed by all the methods.

5. Analyzing values:

1. Ask the user to enter the PIN and display the available balance only when the answer is correct.

use equals method to compare String:

Syntax: *s1.equals(s2)* *here s1 and s2 are String variables*

2. Or use == method to compare PIN that is an integer

int1 == int2

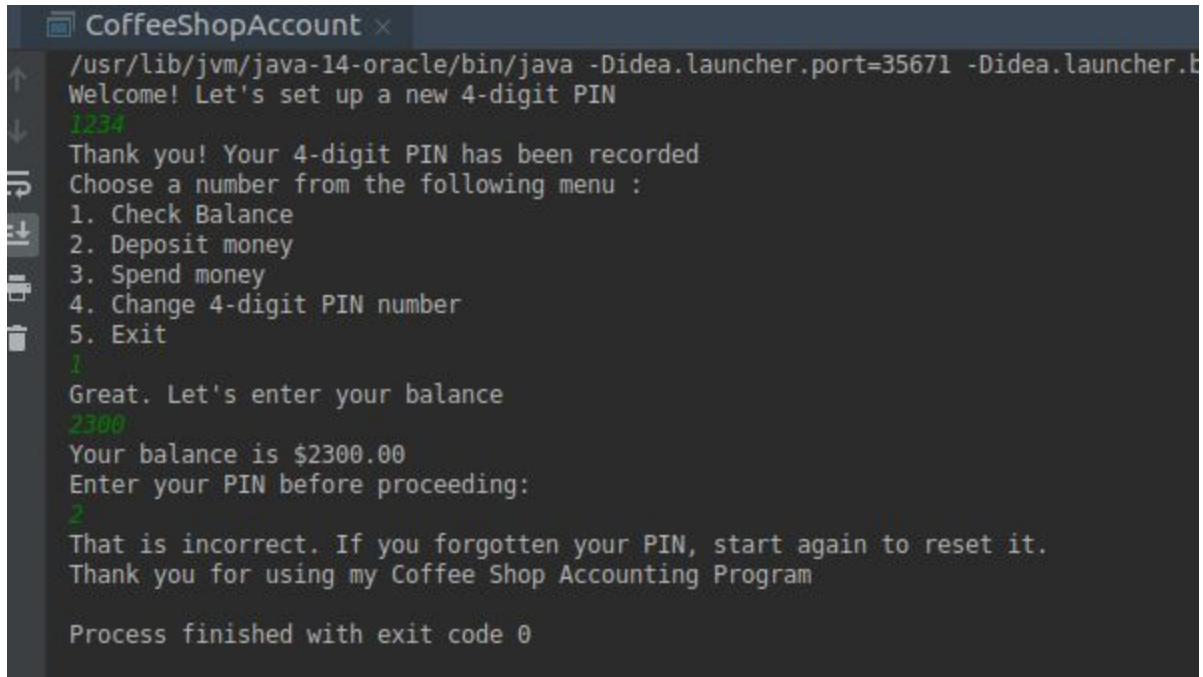
2. Withdraw balance only when the withdrawal amount is less than or equal to balance.

Rules & Guidelines:

1. You may assume the user will always enter the correct dollar in double format and menu in integer format
2. If the user enters any other number not in the menu, simply print a message that it is invalid and loop through the menu again.
3. Create at least 4 methods
4. Use a switch case to call the method that performs the operation.
 - E.g. If the user enters 1 to check balance then call that method
5. Create any additional methods you like
6. Name your methods as camelCased, and action-oriented, i.e. actionValue, getBalance, setBalance, spendBalance, etc.
7. Use while loop to display the bank operations and terminate the loop on Exit (i.e. operation 5)
8. Variables to declare in the main method: balance, pin

Case of wrong PIN entered:

Example:

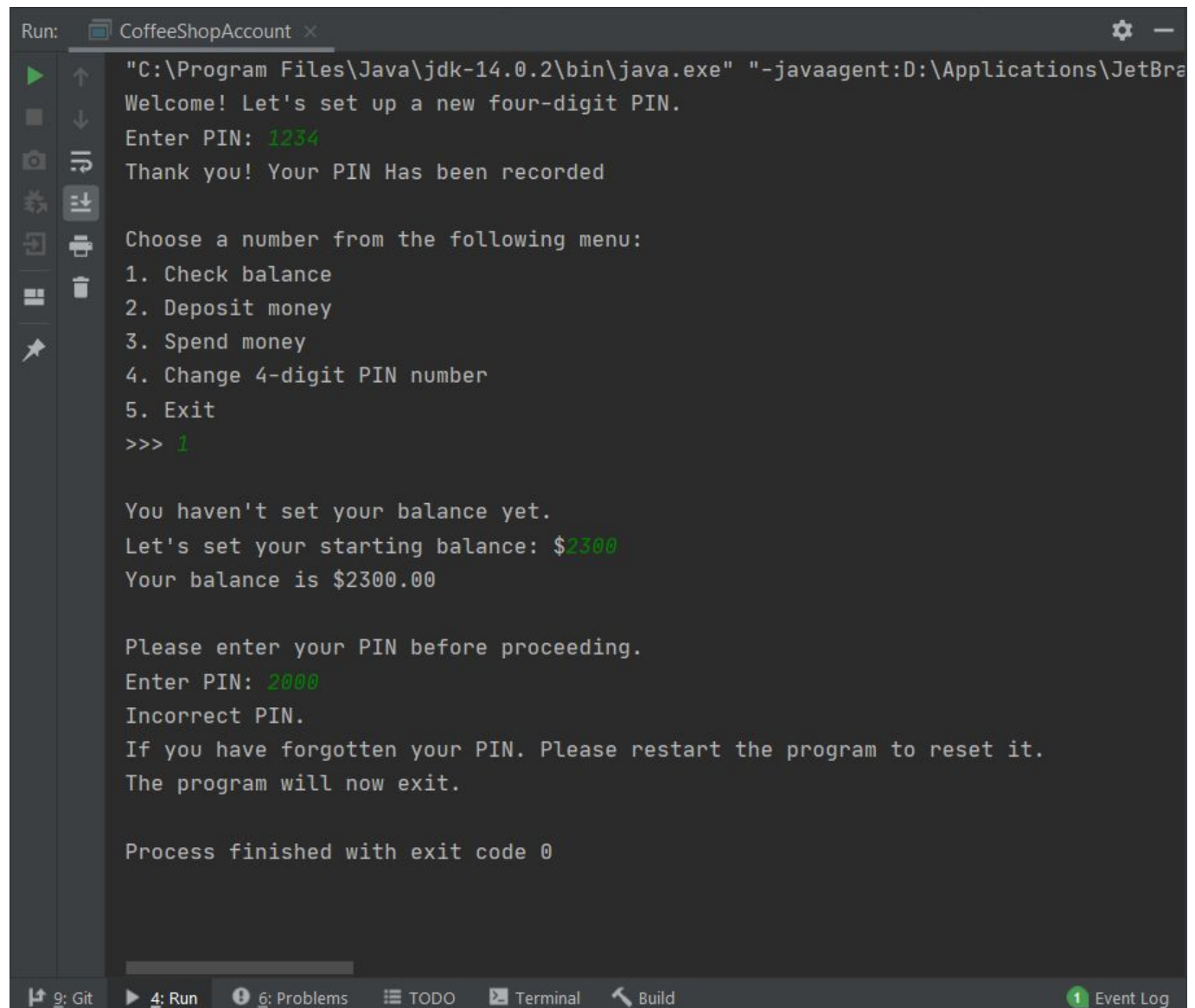


```
CoffeeShopAccount x
/usr/lib/jvm/java-14-oracle/bin/java -Didea.launcher.port=35671 -Didea.launcher.b
Welcome! Let's set up a new 4-digit PIN
1234
Thank you! Your 4-digit PIN has been recorded
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
1
Great. Let's enter your balance
2300
Your balance is $2300.00
Enter your PIN before proceeding:
2
That is incorrect. If you forgotten your PIN, start again to reset it.
Thank you for using my Coffee Shop Accounting Program

Process finished with exit code 0
```

Please paste your screenshot for this scenario here:

Output :



The screenshot shows a Java IDE window titled "CoffeeShopAccount". The main area displays the output of a Java program. The program starts by welcoming the user and asking for a four-digit PIN. The user enters "1234", and the program confirms the PIN. It then presents a menu with five options: 1. Check balance, 2. Deposit money, 3. Spend money, 4. Change 4-digit PIN number, and 5. Exit. The user selects option 1. The program informs the user that they haven't set a balance yet and prompts them to set a starting balance. The user enters "\$2300", and the program displays the current balance as \$2300.00. It then asks for the PIN before proceeding. The user enters "2000", which is incorrect. The program displays an error message and instructs the user to restart the program to reset the PIN. Finally, the program finishes with an exit code of 0.

```
Run: CoffeeShopAccount x
"C:\Program Files\Java\jdk-14.0.2\bin\java.exe" "-javaagent:D:\Applications\JetBra
Welcome! Let's set up a new four-digit PIN.
Enter PIN: 1234
Thank you! Your PIN Has been recorded

Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>> 1

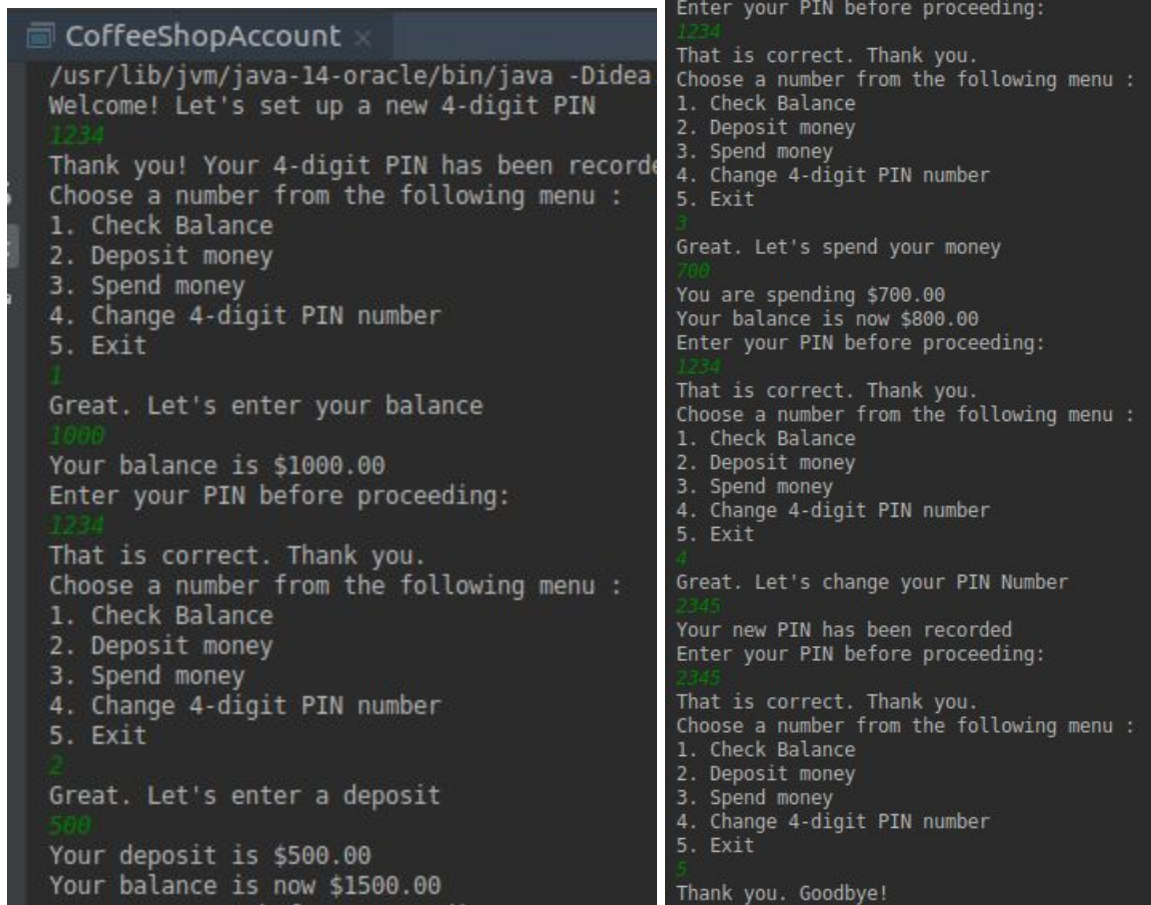
You haven't set your balance yet.
Let's set your starting balance: $2300
Your balance is $2300.00

Please enter your PIN before proceeding.
Enter PIN: 2000
Incorrect PIN.
If you have forgotten your PIN. Please restart the program to reset it.
The program will now exit.

Process finished with exit code 0
```

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Correct values entered:

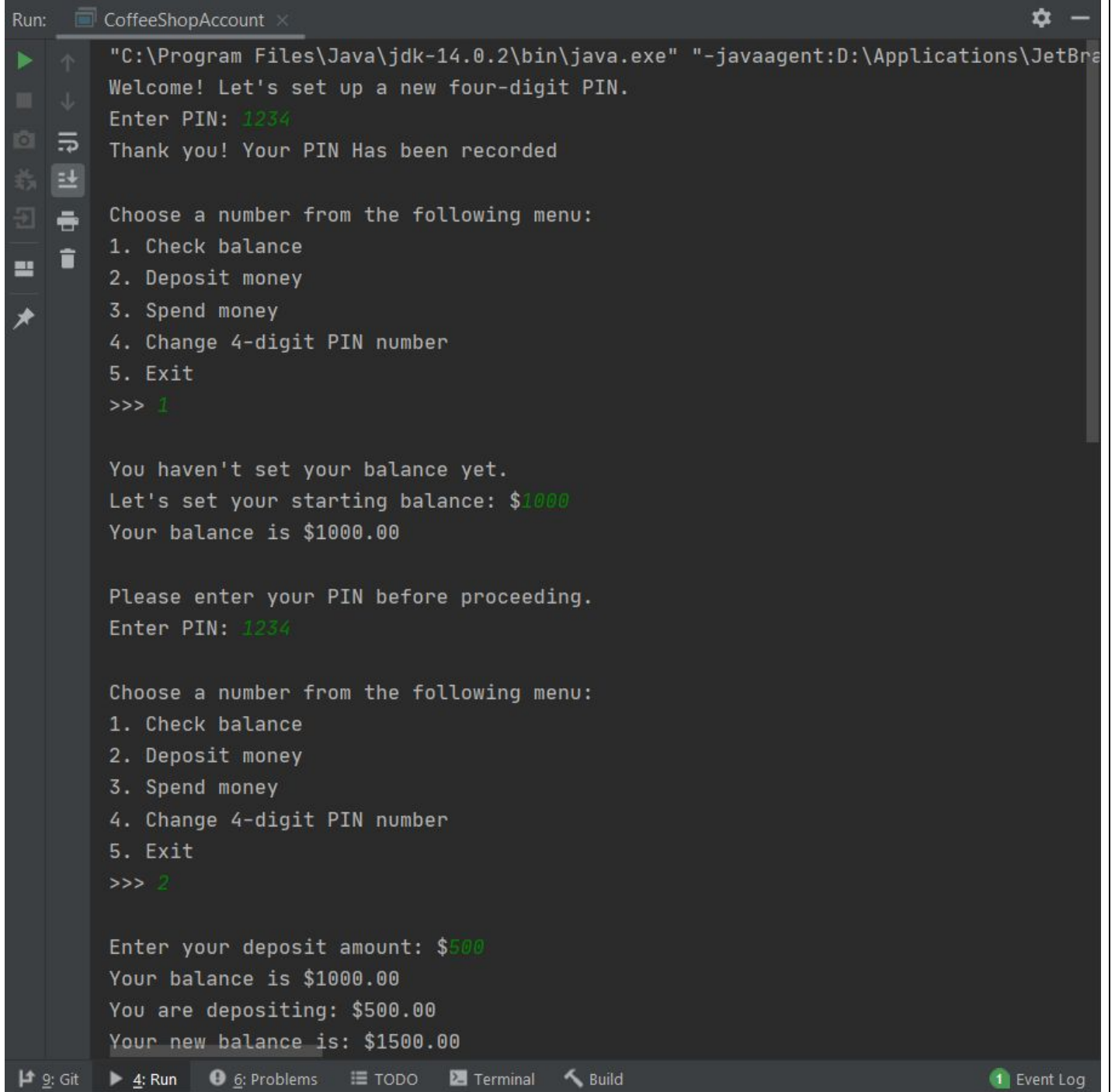


```
CoffeeShopAccount x
/usr/lib/jvm/java-14-oracle/bin/java -Didea
Welcome! Let's set up a new 4-digit PIN
1234
Thank you! Your 4-digit PIN has been recorded
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
1
Great. Let's enter your balance
1000
Your balance is $1000.00
Enter your PIN before proceeding:
1234
That is correct. Thank you.
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
2
Great. Let's enter a deposit
500
Your deposit is $500.00
Your balance is now $1500.00

Enter your PIN before proceeding:
1234
That is correct. Thank you.
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
3
Great. Let's spend your money
700
You are spending $700.00
Your balance is now $800.00
Enter your PIN before proceeding:
1234
That is correct. Thank you.
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
4
Great. Let's change your PIN Number
2345
Your new PIN has been recorded
Enter your PIN before proceeding:
2345
That is correct. Thank you.
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
5
Thank you. Goodbye!
```

Please paste your screenshot for this scenario here:

Output :



```
Run: CoffeeShopAccount x
"C:\Program Files\Java\jdk-14.0.2\bin\java.exe" "-javaagent:D:\Applications\JetBra
Welcome! Let's set up a new four-digit PIN.
Enter PIN: 1234
Thank you! Your PIN Has been recorded

Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>> 1

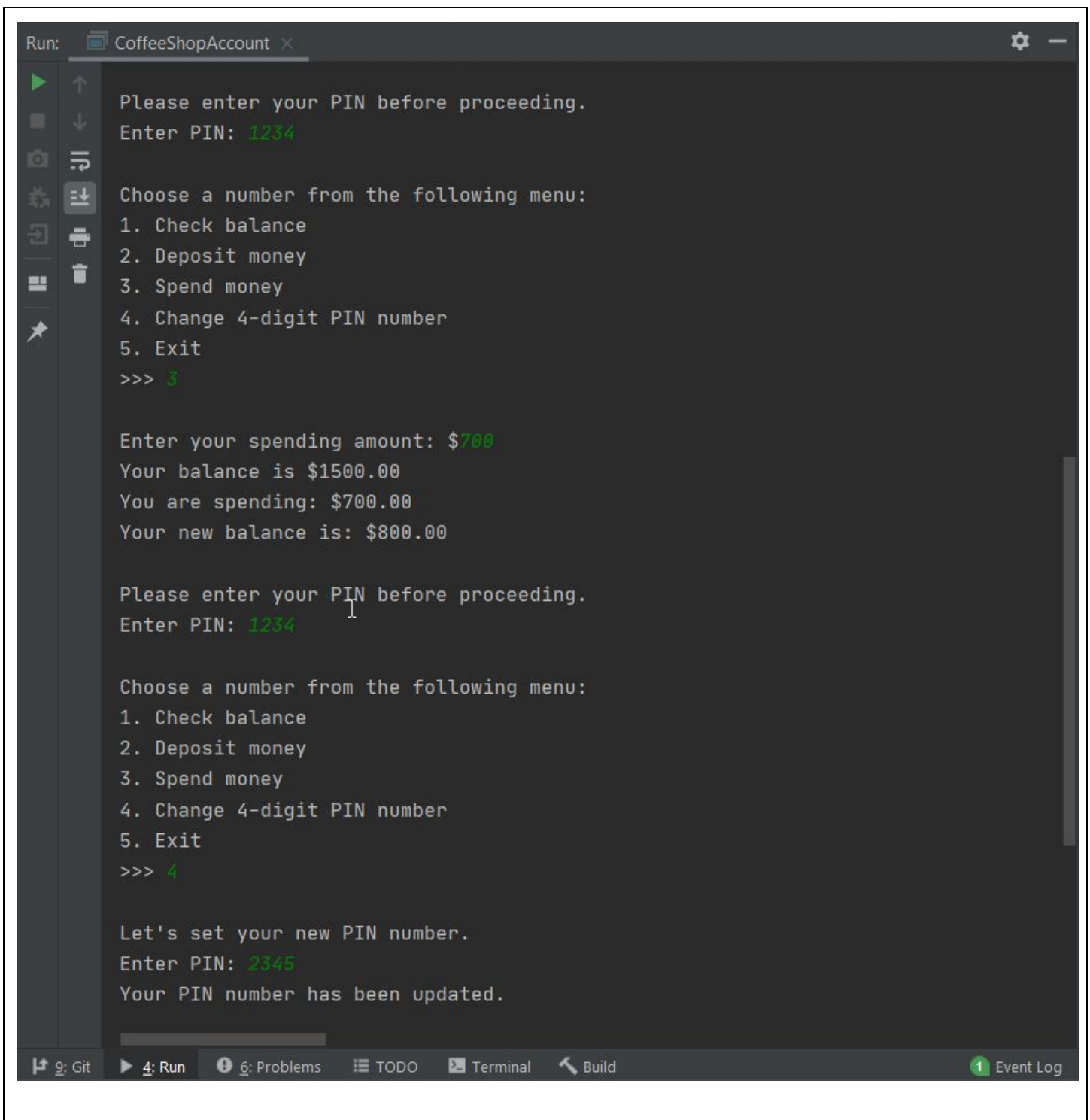
You haven't set your balance yet.
Let's set your starting balance: $1000
Your balance is $1000.00

Please enter your PIN before proceeding.
Enter PIN: 1234

Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>> 2

Enter your deposit amount: $500
Your balance is $1000.00
You are depositing: $500.00
Your new balance is: $1500.00
```

The screenshot shows a Java application titled "CoffeeShopAccount" running in an IDE terminal. The application prompts the user to set a new four-digit PIN, which is entered as "1234". It then displays a menu with five options: 1. Check balance, 2. Deposit money, 3. Spend money, 4. Change 4-digit PIN number, and 5. Exit. The user selects option 1, and the application informs them that they haven't set their balance yet and prompts them to set a starting balance of \$1000. The user's balance is shown as \$1000.00. Next, the application prompts the user to enter their PIN before proceeding, and the user enters "1234". The application displays the same menu again, and the user selects option 2. The application prompts the user to enter their deposit amount, which is entered as \$500. The application then shows the user's balance as \$1000.00, the amount being deposited as \$500.00, and the new balance as \$1500.00. The IDE interface includes a sidebar with icons for Git, Run, Problems, TODO, Terminal, and Build, and a status bar at the bottom showing "1 Event Log".



```
Run: CoffeeShopAccount x
Please enter your PIN before proceeding.
Enter PIN: 1234

Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>> 3

Enter your spending amount: $700
Your balance is $1500.00
You are spending: $700.00
Your new balance is: $800.00

Please enter your PIN before proceeding.
Enter PIN: 1234

Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>> 4

Let's set your new PIN number.
Enter PIN: 2345
Your PIN number has been updated.
```

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```
Please enter your PIN before proceeding.
```

```
Enter PIN: 2345
```






```
Choose a number from the following menu:
```

1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit

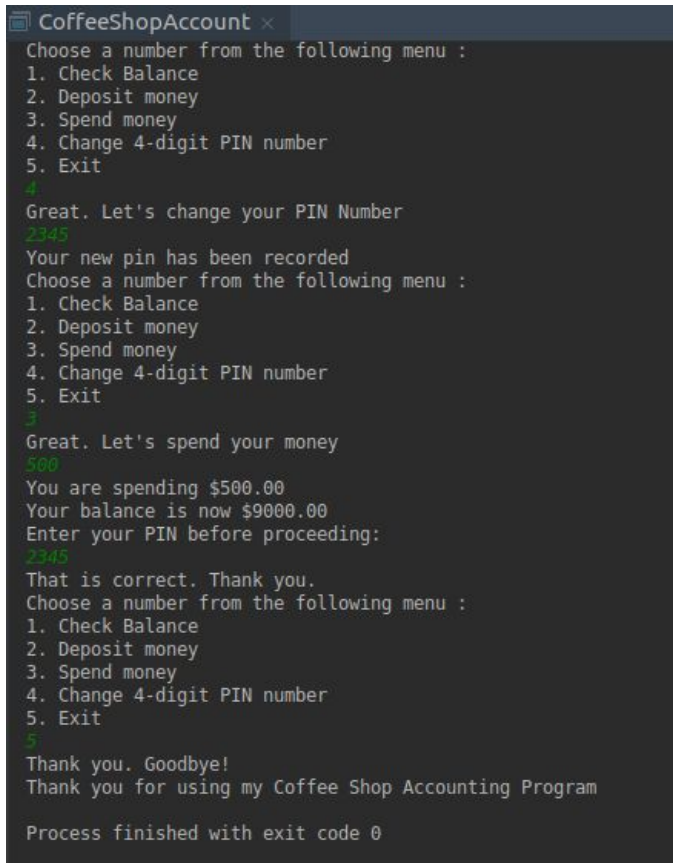
```
>>> 5
```

```
Exiting... Goodbye!
```

```
Process finished with exit code 0
```

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Changing PIN number

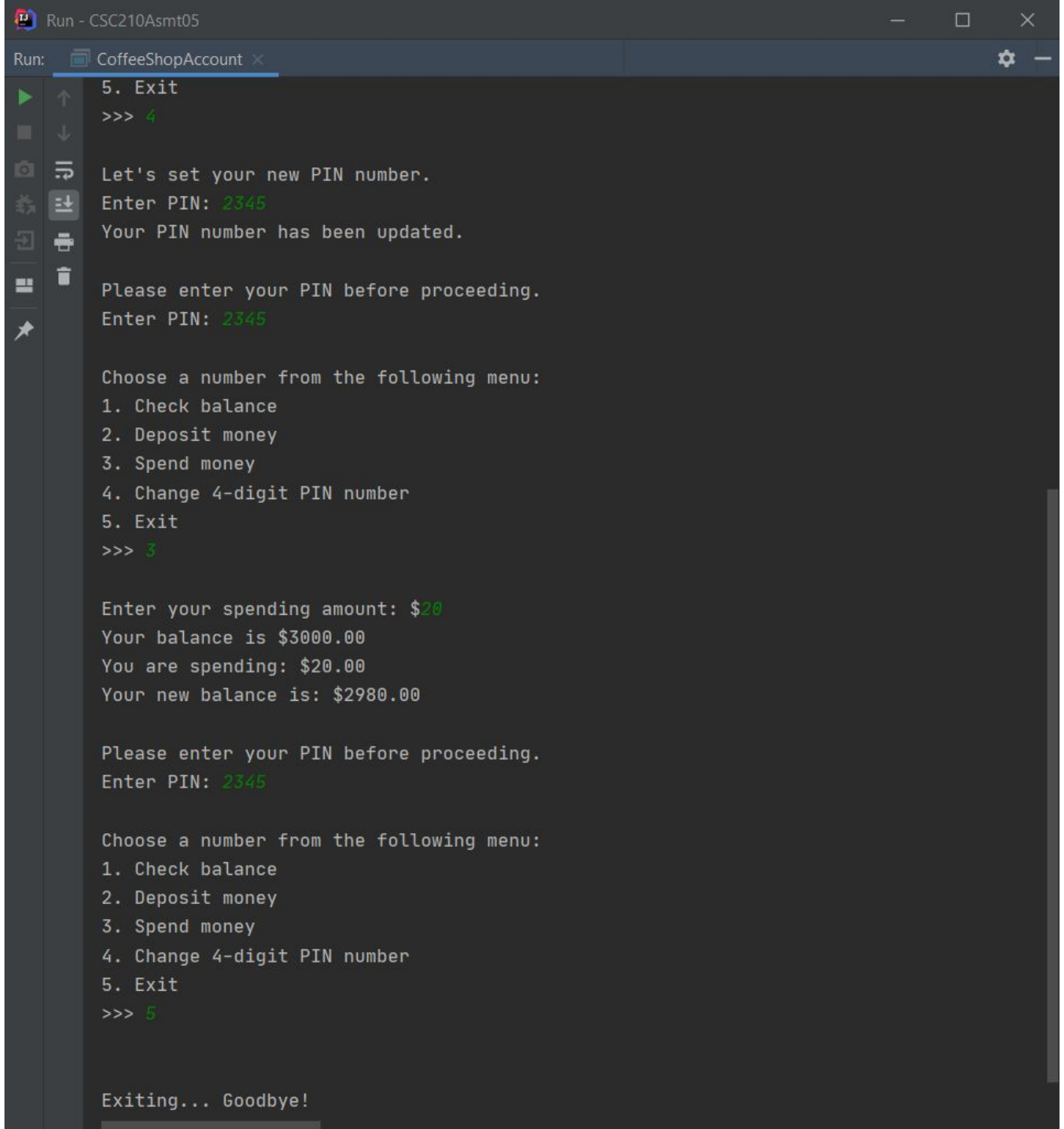


```
CoffeeShopAccount x
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
4
Great. Let's change your PIN Number
2345
Your new pin has been recorded
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
3
Great. Let's spend your money
500
You are spending $500.00
Your balance is now $9000.00
Enter your PIN before proceeding:
2345
That is correct. Thank you.
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
5
Thank you. Goodbye!
Thank you for using my Coffee Shop Accounting Program

Process finished with exit code 0
```

Please paste your screenshot for this scenario here:

Output :



```
Run - CSC210Asmt05
CoffeeShopAccount x
5. Exit
>>> 4

Let's set your new PIN number.
Enter PIN: 2345
Your PIN number has been updated.

Please enter your PIN before proceeding.
Enter PIN: 2345

Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>> 3

Enter your spending amount: $20
Your balance is $3000.00
You are spending: $20.00
Your new balance is: $2980.00

Please enter your PIN before proceeding.
Enter PIN: 2345

Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>> 5

Exiting... Goodbye!
```

Invalid Menu option output:

```
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
5000
Invalid menu option. Please input number from available menu options.
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
3
Great! Let's spend your money.
```

Please paste your screenshot for this scenario here:

Output :

```
Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>> 60

Invalid selection. Please enter a valid option.

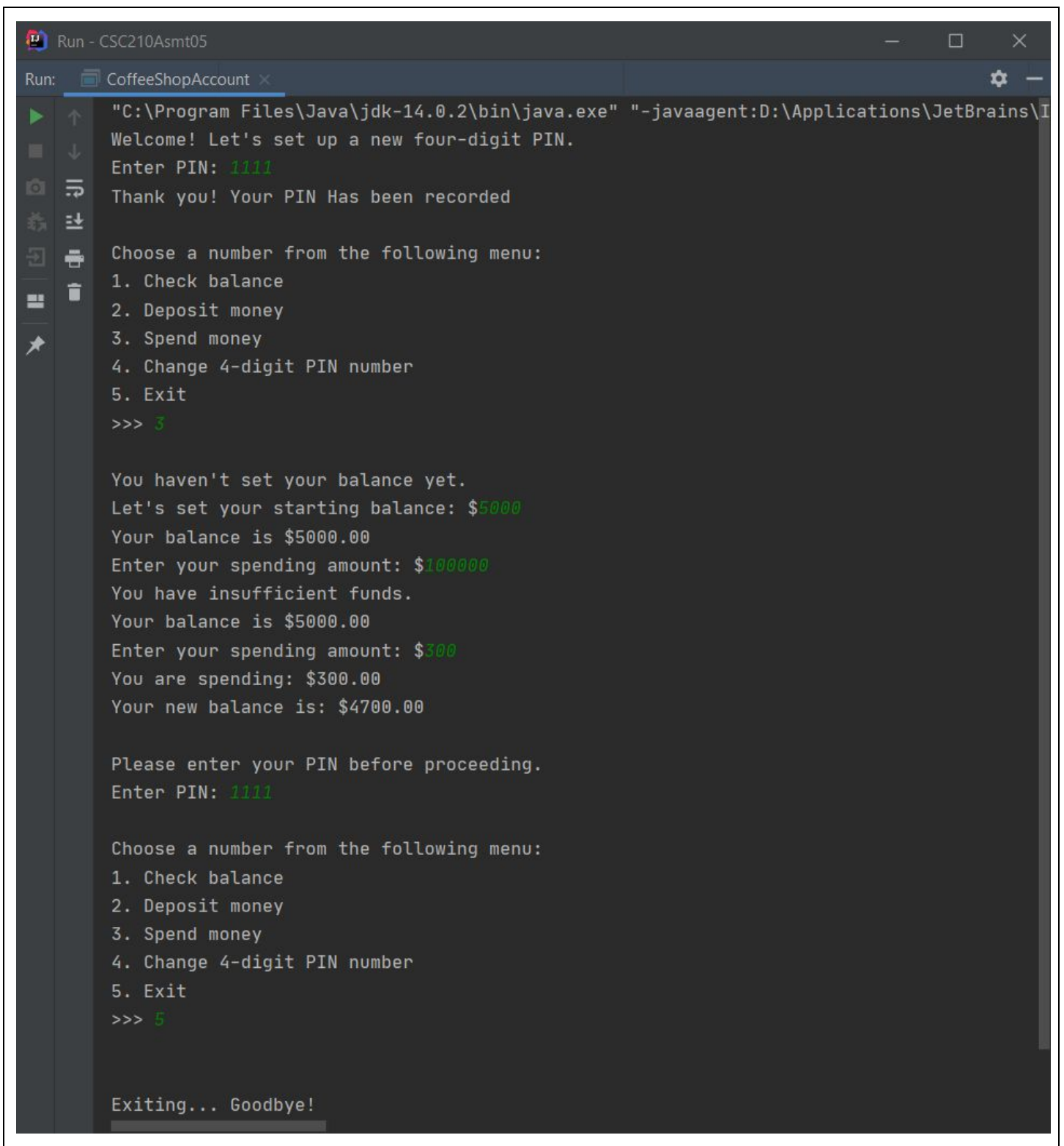
Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>>
```

Not enough money in the balance to spend output:

```
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
5000
Invalid menu option. Please input number from available menu options.
Choose a number from the following menu :
1. Check Balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
3
Good-bye and your money
```

Please paste your screenshot for this scenario here:

Output :



The screenshot shows a Java IDE window titled "Run - CSC210Asmt05". The "Run" tab is active, displaying the output of the "CoffeeShopAccount" application. The application is a text-based menu system for a coffee shop account. It starts by welcoming the user and asking them to set up a new four-digit PIN. The user enters "1111", and the program confirms the PIN. Then, it presents a menu with five options: 1. Check balance, 2. Deposit money, 3. Spend money, 4. Change 4-digit PIN number, and 5. Exit. The user selects option 3, "Spend money". The program prompts for a spending amount. The user enters "\$100000", which is rejected as insufficient funds. The user then enters "\$300", which is accepted. The program shows the updated balance of \$4700.00. The user is then prompted to enter their PIN again, which they do ("1111"). The menu is shown again, and the user selects option 5, "Exit". The program concludes with "Exiting... Goodbye!".

```
Run - CSC210Asmt05
Run: CoffeeShopAccount x
"C:\Program Files\Java\jdk-14.0.2\bin\java.exe" "-javaagent:D:\Applications\JetBrains\I
Welcome! Let's set up a new four-digit PIN.
Enter PIN: 1111
Thank you! Your PIN Has been recorded

Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>> 3

You haven't set your balance yet.
Let's set your starting balance: $5000
Your balance is $5000.00
Enter your spending amount: $100000
You have insufficient funds.
Your balance is $5000.00
Enter your spending amount: $300
You are spending: $300.00
Your new balance is: $4700.00

Please enter your PIN before proceeding.
Enter PIN: 1111

Choose a number from the following menu:
1. Check balance
2. Deposit money
3. Spend money
4. Change 4-digit PIN number
5. Exit
>>> 5

Exiting... Goodbye!
```

SUBMISSION INSTRUCTIONS

1. Submit the 1 `CoffeeShopAccount.java` file directly on iLearn

☐ Part 2: Reflect with a Buddy 50 words [13 points]

1. Find your buddy. Look at the Study Buddy sheet and pair up with your assigned buddy. Or find someone to partner this task with.
2. You can set up a Slack, Discord, or a Zoom with your buddy to asynchronously or synchronously talk about anything, and also reflect on what was helpful and not helpful in completing this homework.
3. Each student will need to create 1 post to mark this assignment as complete.

Have fun with this one!!



[Assignment 5 Part 2: Reflection with a Buddy](#)

The following reflection is identical to the one posted on iLearn.

The assignment was relatively straightforward. For this assignment, I got to work with two people, Yash and my usual buddy, Amber. I helped Yash with a couple of questions regarding loops and sentinel values. As for Amber, she didn't need a lot of help this time. I mostly clarified some of the concepts about methods and parameters for her but for the most part, she seemed to have gotten the hang of coding since we first worked together!