

2021

Monopoly Industries

BANKING APP

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Table of Contents

Introduction	2
What is the purpose of this app?.....	2
Walk through of the App	3
Add account	4
View your accounts.....	8
Withdrawals.....	10
Deposits	13
Load data.....	16
Save data.....	19
Exit.....	23

Introduction

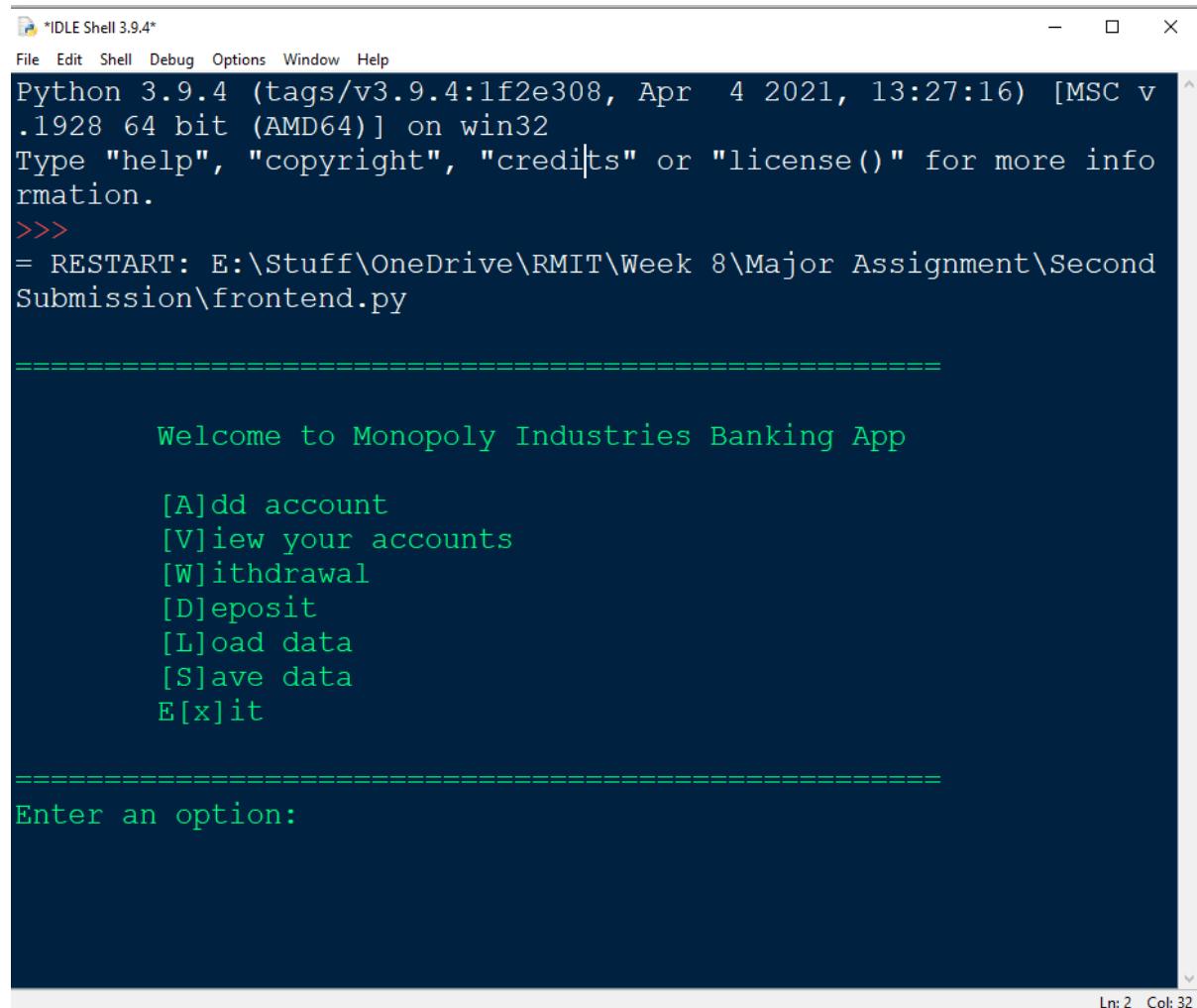
What is the purpose of this app?

The inspiration of this application was taken from the CommBank app, I personally use my app every day, since the start of the pandemic I have made an effort to save money rather than living paycheck to paycheck. During the past year, I have made small saving goals by creating different accounts and separating the money to visually see where my spending goes, and how I can improve in certain areas.

This app has basic functionality, such as creating new bank accounts with account number, name of account and the balance. Withdrawals and deposits from specified accounts is possible which changes the balance available. The user may also save and load files by entering the file name.

Walk through of the App

Here we have included samples and screenshots of the program with some brief instructions on what you can or cannot do within the program. All the operations listed in the menu below, are listed in the following sections.



The screenshot shows a Python IDLE Shell window titled "IDLE Shell 3.9.4*". The window includes a menu bar with File, Edit, Shell, Debug, Options, Window, and Help. The main area displays the following text:

```
Python 3.9.4 (tags/v3.9.4:1f2e308, Apr  4 2021, 13:27:16) [MSC v
.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more info
rmation.

>>>
= RESTART: E:\Stuff\OneDrive\RMIT\Week 8\Major Assignment\Second
Submission\frontend.py

=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

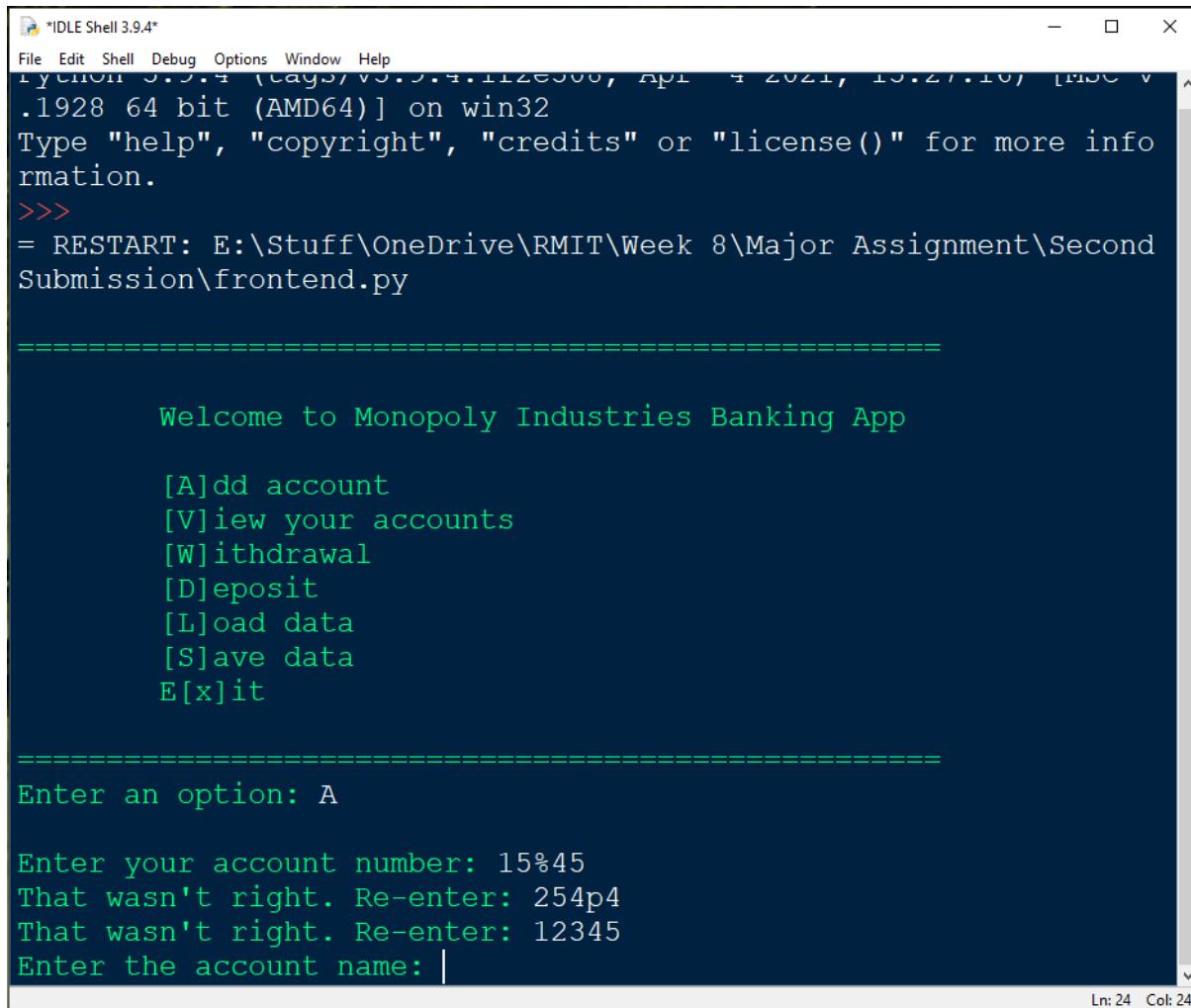
=====
Enter an option:

Ln: 2 Col: 32
```

Add account

Account creation is very simple from the main menu, enter A, a capital or lower case will be accepted.

The program will prompt you to enter your account number. If for some reason you make a typo such as entering a letter or symbol. In the example below, I have made a few errors and the program has confirmed that the answer I gave was not right.



```
File Edit Shell Debug Options Window Help
Python 3.9.4 (tags/v3.9.4.r112965, Apr  4 2021, 15.27.10) [MSC v.
.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more info
rmatation.

>>>
= RESTART: E:\Stuff\OneDrive\RMIT\Week 8\Major Assignment\Second
Submission\frontend.py

=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: A

Enter your account number: 15%45
That wasn't right. Re-enter: 254p4
That wasn't right. Re-enter: 12345
Enter the account name: |
```

Ln: 24 Col: 24

Finally, I have entered my account number 12345, the program now prompts for an account name.

The screenshot shows an IDLE Shell window with the title "*IDLE Shell 3.9.4*". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The window displays a Python script for a banking application. It starts with a welcome message and a list of options: Add account, View your accounts, Withdrawal, Deposit, Load data, Save data, and Exit. The user enters 'A' to add an account. They are prompted to enter their account number, first trying '15%45' which is incorrect, then '254p4' which is also incorrect, and finally '12345' which is accepted. The user then enters the account name 'Christmas2021'. Finally, they are prompted to enter an opening balance, with the cursor currently at the end of the input field.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
Type "help", "copyright", "credits" or "license()" for more information.

>>>
= RESTART: E:\Stuff\OneDrive\RMIT\Week 8\Major Assignment\Second Submission\frontend.py

=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: A

Enter your account number: 15%45
That wasn't right. Re-enter: 254p4
That wasn't right. Re-enter: 12345
Enter the account name: Christmas2021
Enter an opening balance: |
```

The screenshot shows a terminal window titled '*IDLE Shell 3.9.4*' with a menu bar containing File, Edit, Shell, Debug, Options, Window, and Help. Below the menu is a command-line interface with the following text:

```
[L]oad data  
[S]ave data  
E[x]it  
=====  
Enter an option: A  
Enter your account number: 15%45  
That wasn't right. Re-enter: 254p4  
That wasn't right. Re-enter: 12345  
Enter the account name: Christmas2021  
Enter an opening balance: 500  
=====  
Welcome to Monopoly Industries Banking App  
[A]dd account  
[V]iew your accounts  
[W]ithdrawal  
[D]eposit  
[L]oad data  
[S]ave data  
E[x]it  
=====  
Enter an option: |
```

At the bottom right of the window, there is a status bar with 'Ln: 40 Col: 17'.

Symbols and numbers are accepted as an account name. The opening balance above is \$500.

If for some reason a typo was entered on the opening balance amount, the program will request a number, or decimal without any symbols or letters.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
[S]ave data
E[x]it
=====
Enter an option:
Error! Input cannot be blank. Re-enter: a

Enter your account number: 23456
Enter the account name: Christmas2022
Enter an opening balance: r500
That wasn't right. Re-enter: !300
That wasn't right. Re-enter: 500

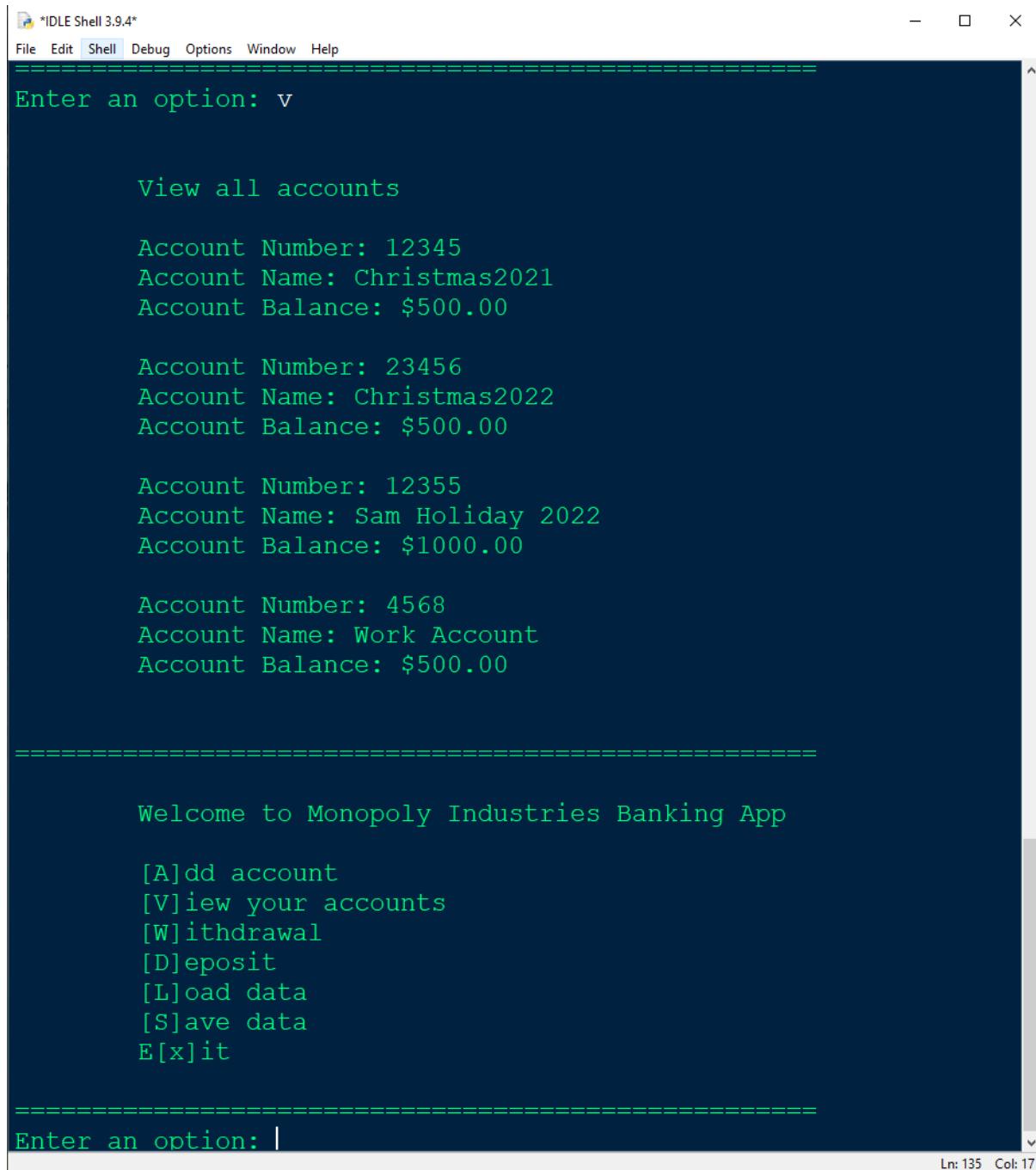
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: |
Ln: 62 Col: 17
```

Successful creation of account!

View your accounts

You can view all existing accounts created and/or loaded into the program, by pressing v or V to get the accounts to display on the screen.



The screenshot shows an IDLE Shell window with the title "*IDLE Shell 3.9.4*". The menu bar includes File, Edit, Shell (which is selected), Debug, Options, Window, and Help. The main console area displays the following output:

```
Enter an option: v

View all accounts

Account Number: 12345
Account Name: Christmas2021
Account Balance: $500.00

Account Number: 23456
Account Name: Christmas2022
Account Balance: $500.00

Account Number: 12355
Account Name: Sam Holiday 2022
Account Balance: $1000.00

Account Number: 4568
Account Name: Work Account
Account Balance: $500.00

=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
[E]xit

=====
Enter an option: |
```

At the bottom right of the window, there is a status bar with "Ln: 135 Col: 17".

As you can see in the previous screenshot, I have 4 accounts listed, which were created and saved to a file. The main menu automatically prompts for another option.

If the customer chooses view accounts without loading an existing account or creating an account, the program will advise no accounts found as shown below.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
Python 3.9.4 (tags/v3.9.4:1f2e308, Apr 4 2021, 13:27:16) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\Stuff\OneDrive\RMIT\Week 8\second attempt\frontend.py =====

=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: v

View all accounts

No accounts found.

=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: |
```

Withdrawals

For withdrawals, enter W or w at the main menu to start the operation.

The program will prompt you to enter your account number that you wish to withdraw money from.

If for some reason you have forgotten the account number or you do not have enough money in the account to make that withdrawal, the program will advise the customer of an error as shown below.

The screenshot shows an IDLE Shell window titled "IDLE Shell 3.9.4". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The main window displays a banking application's menu and a withdrawal attempt:

```
Account Name: Work Account
Account Balance: $500.00
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: w
Enter your account number: 123456
Enter withdraw amount: 1
An Error has occurred.

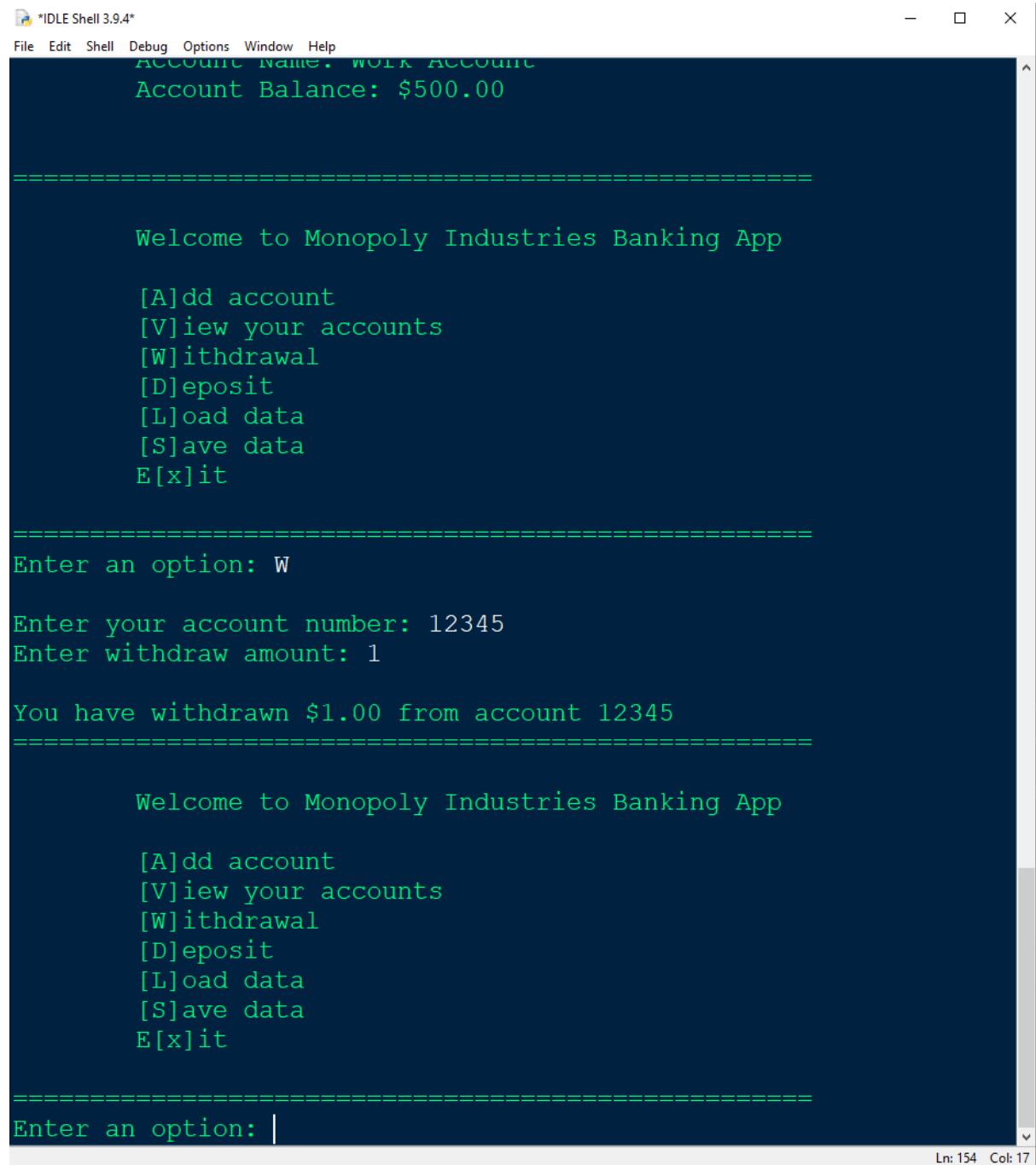
Please check your account number and
ensure that you have sufficient balance.
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: |
```

Ln: 182 Col: 17

As the program cannot find a match it will loop back to the bank menu as shown above.

In this example we will withdraw \$1 from account 12345 that has a balance of \$500.



The screenshot shows an IDLE Shell window with the title "*IDLE Shell 3.9.4*". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. A toolbar above the menu bar displays icons for file operations. The main window contains the following text:

```
Account name: WORK ACCOUNT
Account Balance: $500.00
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: W

Enter your account number: 12345
Enter withdraw amount: 1

You have withdrawn $1.00 from account 12345
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: |
```

At the bottom right of the window, there is a status bar with "Ln: 154 Col: 17".

The program confirms the withdraw was successful.

If we return to view accounts, we can see the account balance of account 12345 is now \$499.00

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help

Enter an option: V

View all accounts

Account Number: 12345
Account Name: Christmas2021
Account Balance: $499.00

Account Number: 23456
Account Name: Christmas2022
Account Balance: $500.00

Account Number: 12355
Account Name: Sam Holiday 2022
Account Balance: $1000.00

Account Number: 4568
Account Name: Work Account
Account Balance: $500.00

=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: |
```

Ln: 189 Col: 17

Deposits

To deposit money into an account, enter d or D at the main menu.

The program will ask you for the account number and deposit amount.

Following from the previous example, where we withdrew \$1.00 from account number 12345 We will deposit the \$1.00 back into the account.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
Account Balance: $1000.00
Account Number: 4568
Account Name: Work Account
Account Balance: $500.00
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: d

Enter your account number: 12345
Enter deposit amount: 1

You have deposited $1.00 in to account 12345
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: |
```

Ln: 236 Col: 17

The program has confirmed the deposit is successful and now we view the accounts and can see that the balance on account 12345 has been updated to \$500 again.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
[S]ave data
E[x]it
=====
Enter an option: v

View all accounts

Account Number: 12345
Account Name: Christmas2021
Account Balance: $500.00

Account Number: 23456
Account Name: Christmas2022
Account Balance: $500.00

Account Number: 12355
Account Name: Sam Holiday 2022
Account Balance: $1000.00

Account Number: 4568
Account Name: Work Account
Account Balance: $500.00

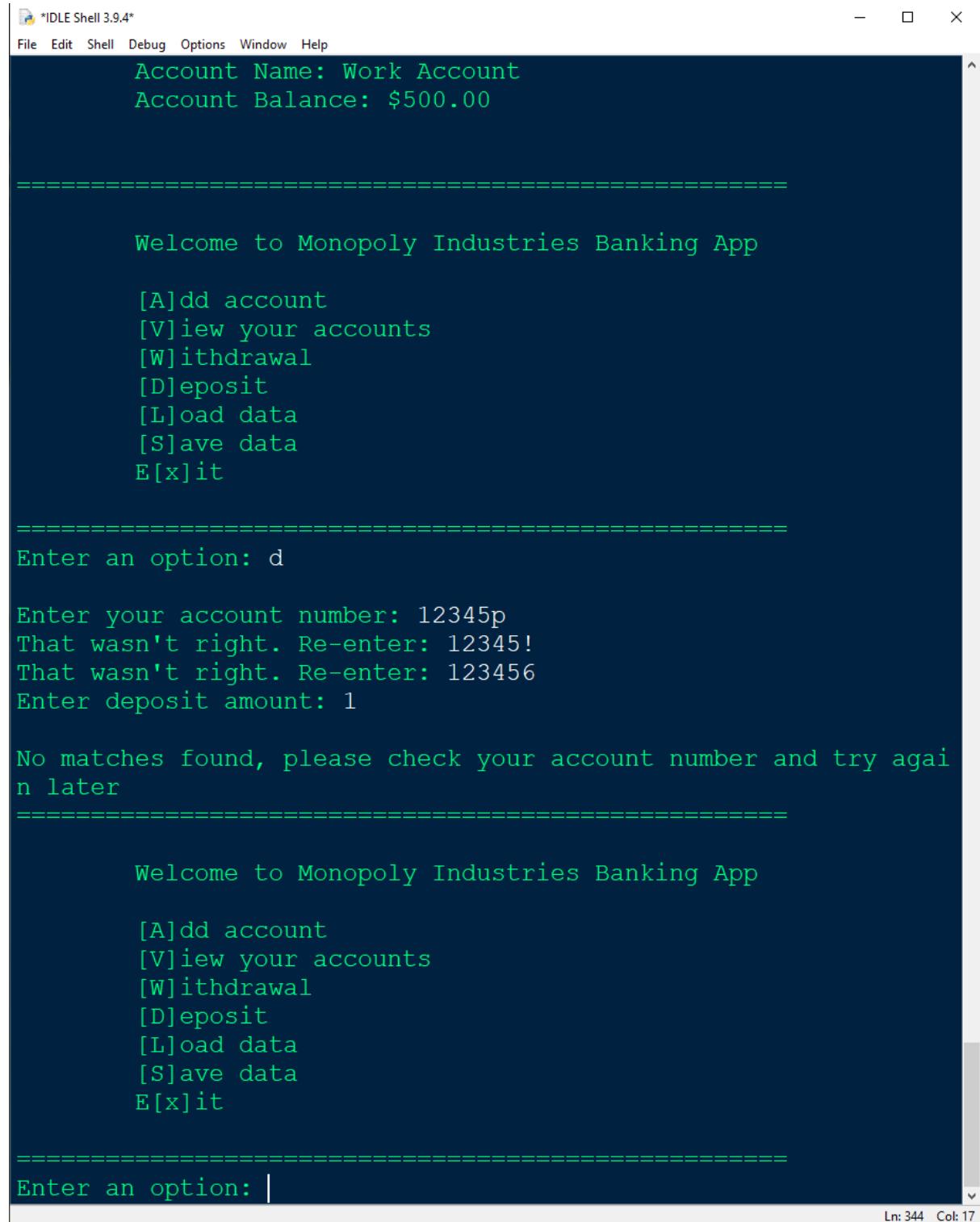
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: |
```

Ln: 271 Col: 17

Errors when typing the account number, will prompt the customer to re-enter the account number. If the number entered does not match an existing account, the program will ask the customer to check the account number and try again later.



The screenshot shows a terminal window titled "IDLE Shell 3.9.4". The window has a menu bar with File, Edit, Shell, Debug, Options, Window, and Help. The main area displays the following text:

```
Account Name: Work Account
Account Balance: $500.00
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: d

Enter your account number: 12345p
That wasn't right. Re-enter: 12345!
That wasn't right. Re-enter: 123456
Enter deposit amount: 1

No matches found, please check your account number and try again later
=====

Welcome to Monopoly Industries Banking App

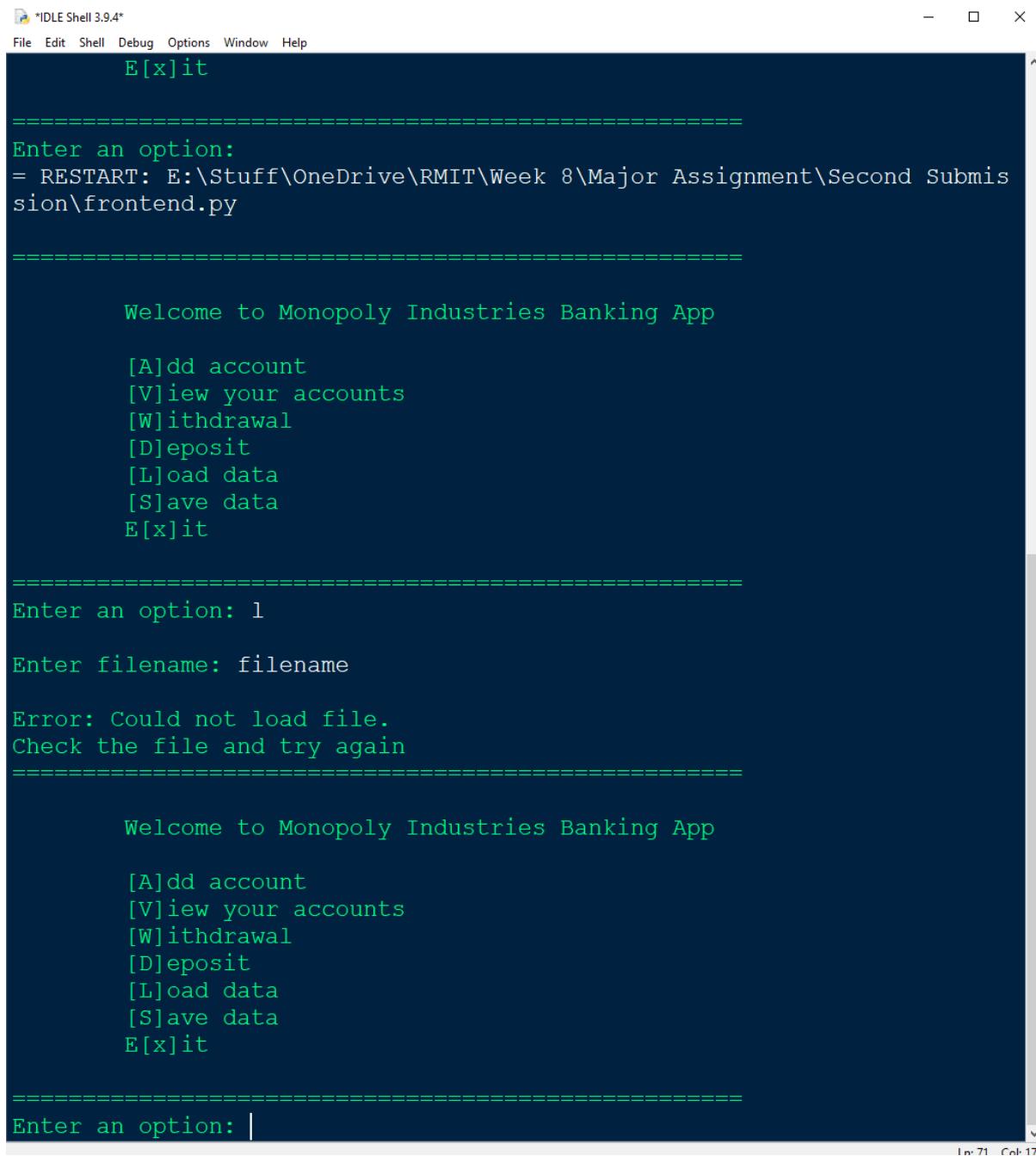
[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: |
```

In the bottom right corner of the terminal window, there is a status bar with "Ln: 344 Col: 17".

Load data

Loading an existing file is very simple, just enter l or L at the main menu.

In the screenshot below, I have seem to forgotten the file name and written filename. As this file does not exist, the program has confirmed an error.



The screenshot shows a terminal window titled "IDLE Shell 3.9.4". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The main area displays the following text:

```
E[x]it
=====
Enter an option:
= RESTART: E:\Stuff\OneDrive\RMIT\Week 8\Major Assignment\Second Submission\frontend.py
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: l
Enter filename: filename
Error: Could not load file.
Check the file and try again
=====

Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: |
```

The terminal window has a dark background with light-colored text. It shows the application's main menu, a command-line prompt, and an error message indicating that the specified file could not be loaded.

I have saved a file from my last session into a file name called userguide.csv, I have loaded the file successfully as shown below.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
[S]ave data
E[x]it
=====
Enter an option: v

No accounts found.
=====

Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====

Enter an option: l

Enter filename: userguide.csv

File loaded successfully.
=====

Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====

Enter an option: |
```

File data can be displayed on view accounts below.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
[S]ave data
E[x]it
=====
Enter an option: v

    View all accounts

    Account Number: 12345
    Account Name: Christmas2021
    Account Balance: $500.00

    Account Number: 23456
    Account Name: Christmas2022
    Account Balance: $500.00

    Account Number: 12355
    Account Name: Sam Holiday 2022
    Account Balance: $1000.00

    Account Number: 4568
    Account Name: Work Account
    Account Balance: $500.00

=====
Welcome to Monopoly Industries Banking App

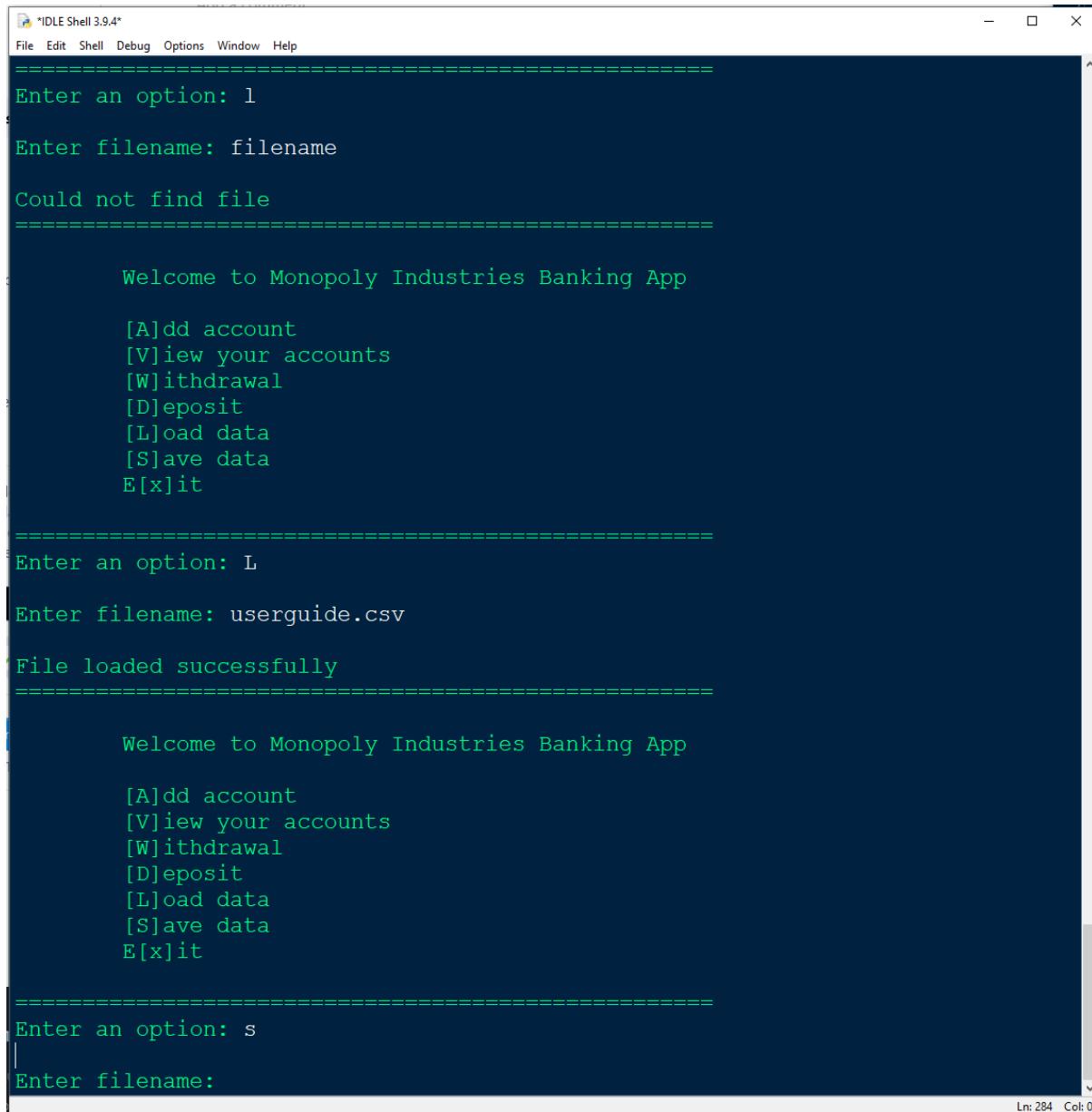
[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: |
```

Ln: 158 Col: 17

Save data

The saving option is a bit tricky, when saving a file, ensure that the file extension can be opened on your computer.

In this example, I have entered s from the menu, to bring up the save file prompt below.



The screenshot shows a terminal window titled "IDLE Shell 3.9.4". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The main area displays a banking application's menu:

```
Enter an option: l
Enter filename: filename
Could not find file
=====
Welcome to Monopoly Industries Banking App
[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: L
Enter filename: userguide.csv
File loaded successfully
=====
Welcome to Monopoly Industries Banking App
[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: s
| Enter filename:
```

The cursor is positioned at the end of the command "Enter filename:" in the final prompt. The status bar at the bottom right indicates "Ln: 284 Col: 0".

Unfortunately, I have made an error saving the file without a file extension.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
E[x]it
=====
Enter an option: L
Enter filename: userguide.csv
File loaded successfully
=====
Welcome to Monopoly Industries Banking App
[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: s
Enter filename: userguide
Saved to file.
=====
Welcome to Monopoly Industries Banking App
[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: |
```

Ln: 301 Col: 1

The result on my computer is as shown below, as I have window OS, I have an option to right click on the file and open with notepad.



You can manually change the file name by renaming it with userguide.csv or userguide.txt.

Alternatively, if the program is still open we can save with the correct file extension as shown below.

```
File Edit Shell Debug Options Window Help
E[x]it
=====
Enter an option: s
Enter filename: userguide
Saved to file.
=====
Welcome to Monopoly Industries Banking App
[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: s
Enter filename: userguide.csv
Saved to file.
=====
Welcome to Monopoly Industries Banking App
[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it
=====
Enter an option: |
```

The file on my computer is shown below.



Errors may occur such as when filename already exists and the file is already opened and locked, the program will confirm there is an error as shown below.

The screenshot shows a terminal window titled "IDLE Shell 3.9.4". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The main area displays a banking application's save functionality. It starts with a prompt "Enter an option: s", followed by "Enter file name: userguide2.csv", and a success message "File saved successfully". A welcome message "Welcome to Monopoly Industries Banking App" is displayed, followed by a menu of options: [A]dd account, [V]iew your accounts, [W]ithdrawal, [D]eposit, [L]oad data, [S]ave data, and [E]xit. The process repeats with another "Enter an option: s" prompt, "Enter file name: userguide2.csv", and an error message "Error - File not saved". The welcome message and menu are shown again. Finally, the prompt "Enter an option: |" is visible at the bottom, indicating where the user can type their next command. The status bar at the bottom right shows "Ln: 230 Col: 17".

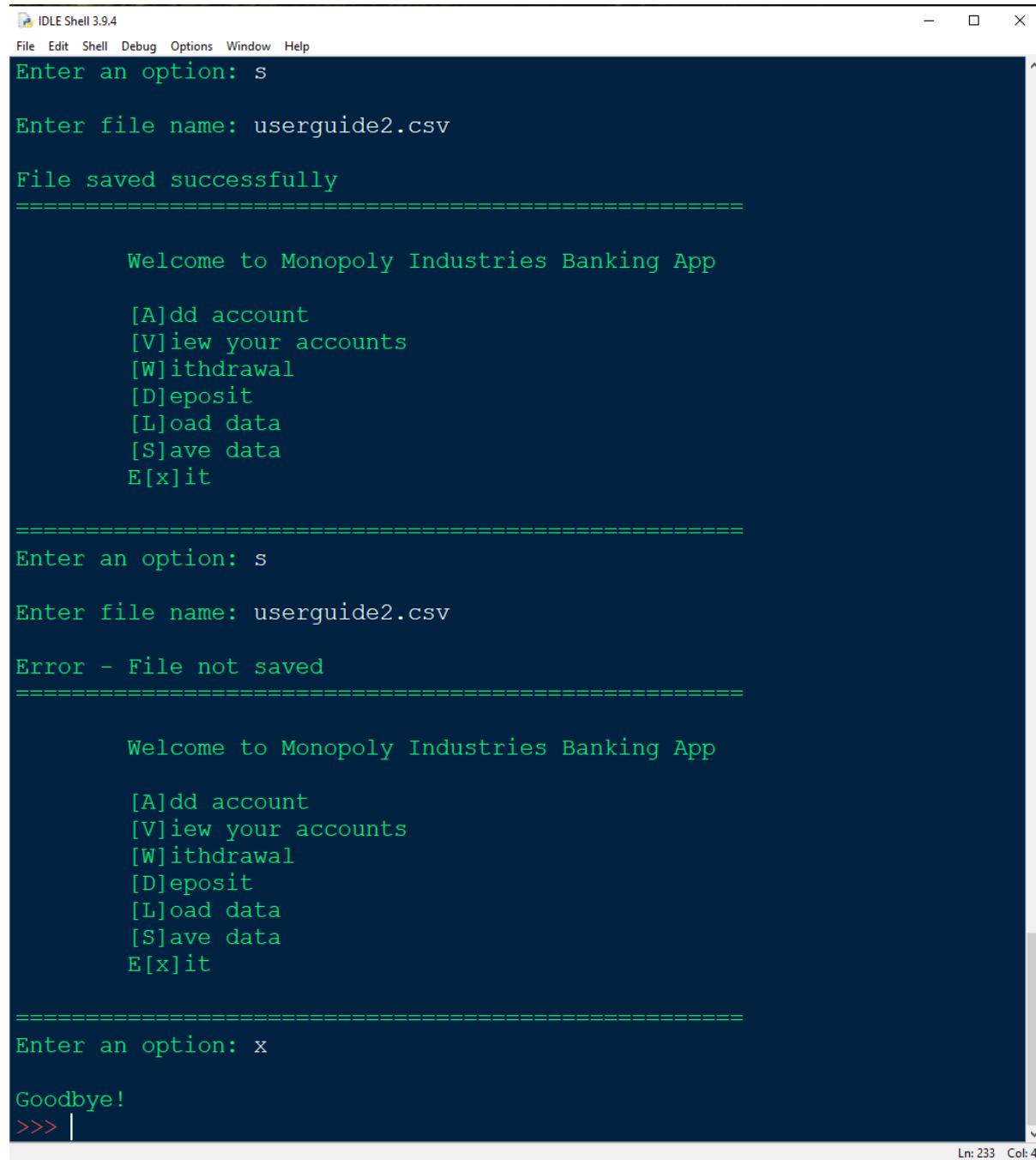
```
E[x]it
=====
Enter an option: s
Enter file name: userguide2.csv
File saved successfully
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
[E]xit
=====
Enter an option: s
Enter file name: userguide2.csv
Error - File not saved
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
[E]xit
=====
Enter an option: |
```

Exit

To exist the program simply press X or x at the main menu.



IDLE Shell 3.9.4

File Edit Shell Debug Options Window Help

```
Enter an option: s

Enter file name: userguide2.csv

File saved successfully
=====
Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: s

Enter file name: userguide2.csv

Error - File not saved
=====

Welcome to Monopoly Industries Banking App

[A]dd account
[V]iew your accounts
[W]ithdrawal
[D]eposit
[L]oad data
[S]ave data
E[x]it

=====
Enter an option: x

Goodbye!
>>> |
```

Ln: 233 Col: 4