

Monopoly Industries

Banking App

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Introduction

What is the purpose of this application?

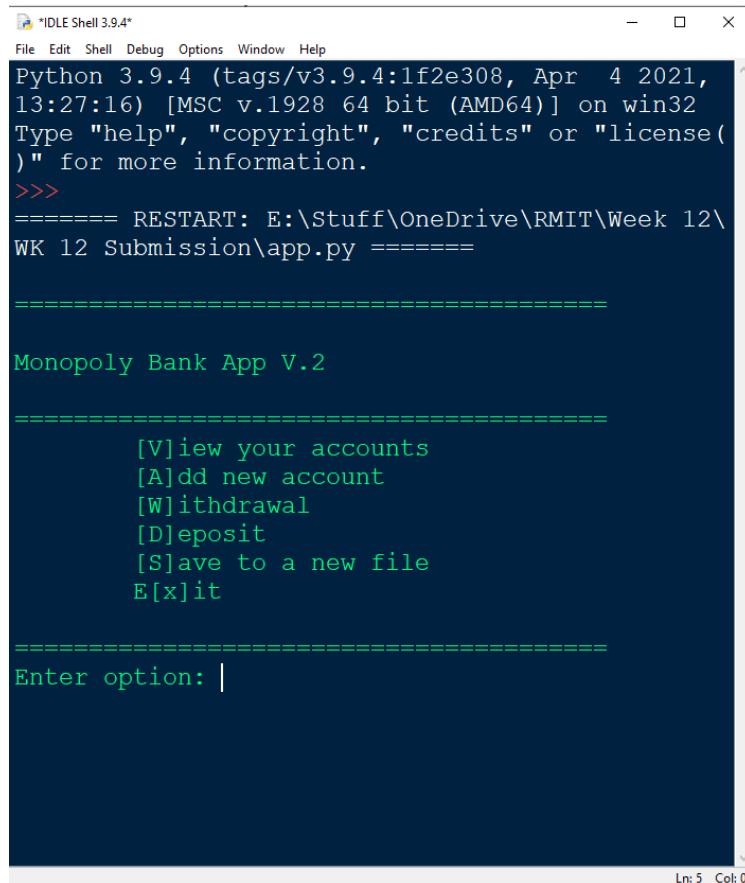
The inspiration of this application was taken from the CommBank app(link:

<https://play.google.com/store/apps/details?id=com.commbank.netbank>), I personally use my app every day, since the start of the pandemic I have tried 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 application 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 application

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 Windows-style window titled "IDLE Shell 3.9.4". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The main window 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 information.

>>>
===== RESTART: E:\Stuff\OneDrive\RMIT\Week 12\
WK 12 Submission\app.py =====

=====
Monopoly Bank App V.2
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
[E][x]it

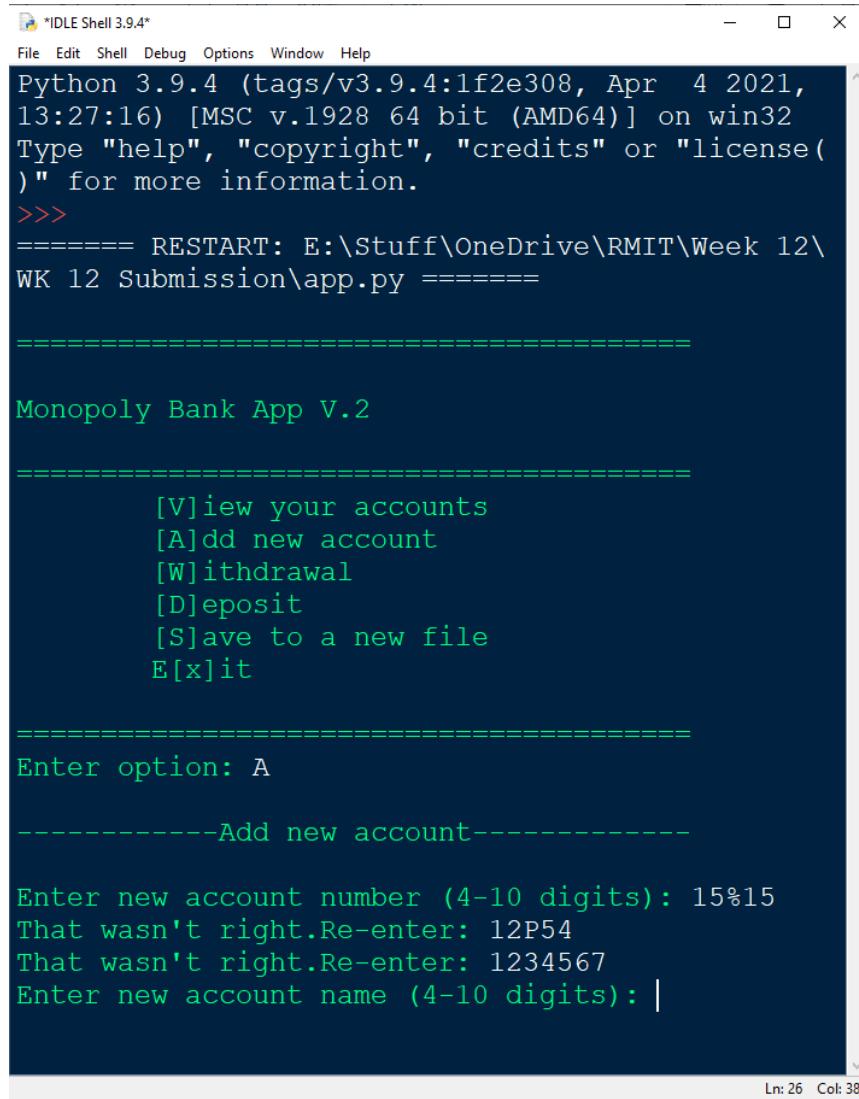
=====
Enter option: |
```

The window has a status bar at the bottom indicating "Ln: 5 Col: 0".

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.



The screenshot shows a Python 3.9.4 IDLE Shell window. The window title is "IDLE Shell 3.9.4". The Python version and build information are displayed at the top. The code in the shell window is as follows:

```
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 12\
WK 12 Submission\app.py =====

=====
Monopoly Bank App V.2
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

=====
Enter option: A
-----
-----Add new account-----

Enter new account number (4-10 digits): 15%15
That wasn't right. Re-enter: 12P54
That wasn't right. Re-enter: 1234567
Enter new account name (4-10 digits): |
```

Finally, I have entered my account number 1234567, the program now prompts for an account name.

The screenshot shows a Python application running in an IDLE Shell window. The application is a command-line interface for managing bank accounts, specifically for a Monopoly Bank App V.2. The application menu includes options for viewing accounts, adding new accounts, withdrawal, deposit, saving to a new file, and exiting. The user has selected the option to add a new account ('A'). The application prompts the user to enter a new account number (4-10 digits) and a name (4-10 digits). The user enters '15%15' as the account number, which is rejected as invalid. The user then re-enters '12P54' and '1234567' respectively, both of which are also rejected. Finally, the user enters 'Xmas2021' as the account name, which is accepted.

```
*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 12\
WK 12 Submission\app.py =====

=====
Monopoly Bank App V.2
=====

[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

=====
Enter option: A

-----Add new account-----

Enter new account number (4-10 digits): 15%15
That wasn't right. Re-enter: 12P54
That wasn't right. Re-enter: 1234567
Enter new account name (4-10 digits): Xmas2021
Balance: |
```

No more than a combination of 10 letters, symbols and numbers are accepted as an account name. No less than 4.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

=====
Enter option: A

-----Add new account-----

Enter new account number (4-10 digits): 15%15
That wasn't right.Re-enter: 12P54
That wasn't right.Re-enter: 1234567
Enter new account name (4-10 digits): Xmas2021
Balance: 500
Account created successfully.

=====

Monopoly Bank App V.2

=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

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

Ln: 43 Col: 14

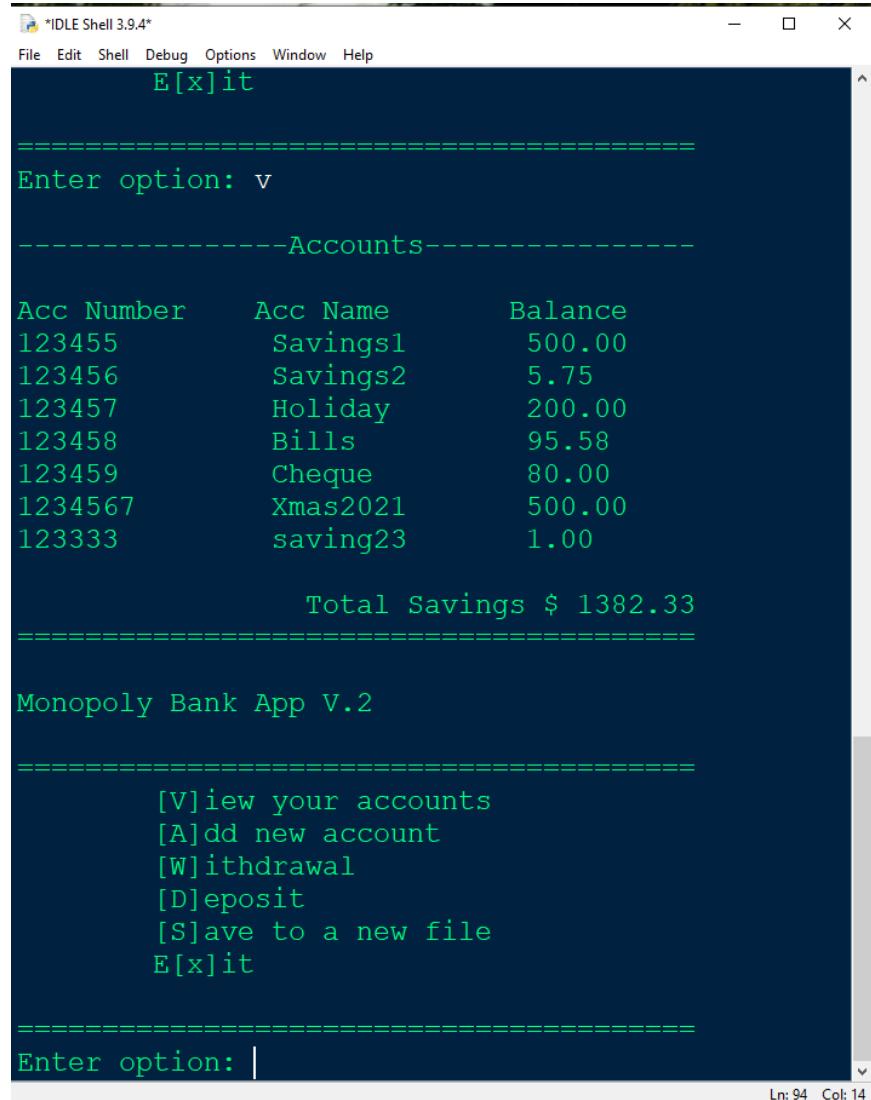
The opening balance above is \$500, the program now confirmed creation of account is successful.

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 as shown in the next example.

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 main area displays a menu with options: [W]ithdrawal, [D]eposit, [S]ave to a new file, and E[x]it. Below the menu, a dashed line separates it from the user input. The user enters "a" as the option. Another dashed line follows, followed by the text "-----Add new account-----". The user then enters "123333" as the new account number and "saving23" as the name. When entering the balance, the user types "p", which is flagged as incorrect. The user then re-enters "1" as the balance, which is also flagged as incorrect. Finally, the message "Account created successfully." is displayed. A second dashed line follows, and the text "-----Monopoly Bank App V.2-----" is shown. The menu options are listed again: [V]iew your accounts, [A]dd new account, [W]ithdrawal, [D]eposit, [S]ave to a new file, and E[x]it. A final dashed line separates the menu from the prompt "Enter option: |". In the bottom right corner of the shell window, there is a status bar with "Ln: 67 Col: 14".

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, Debug, Options, Window, and Help. The main window displays a menu option "E[x]it" followed by a separator line. It then prompts "Enter option: v". Below this, it displays a table of accounts:

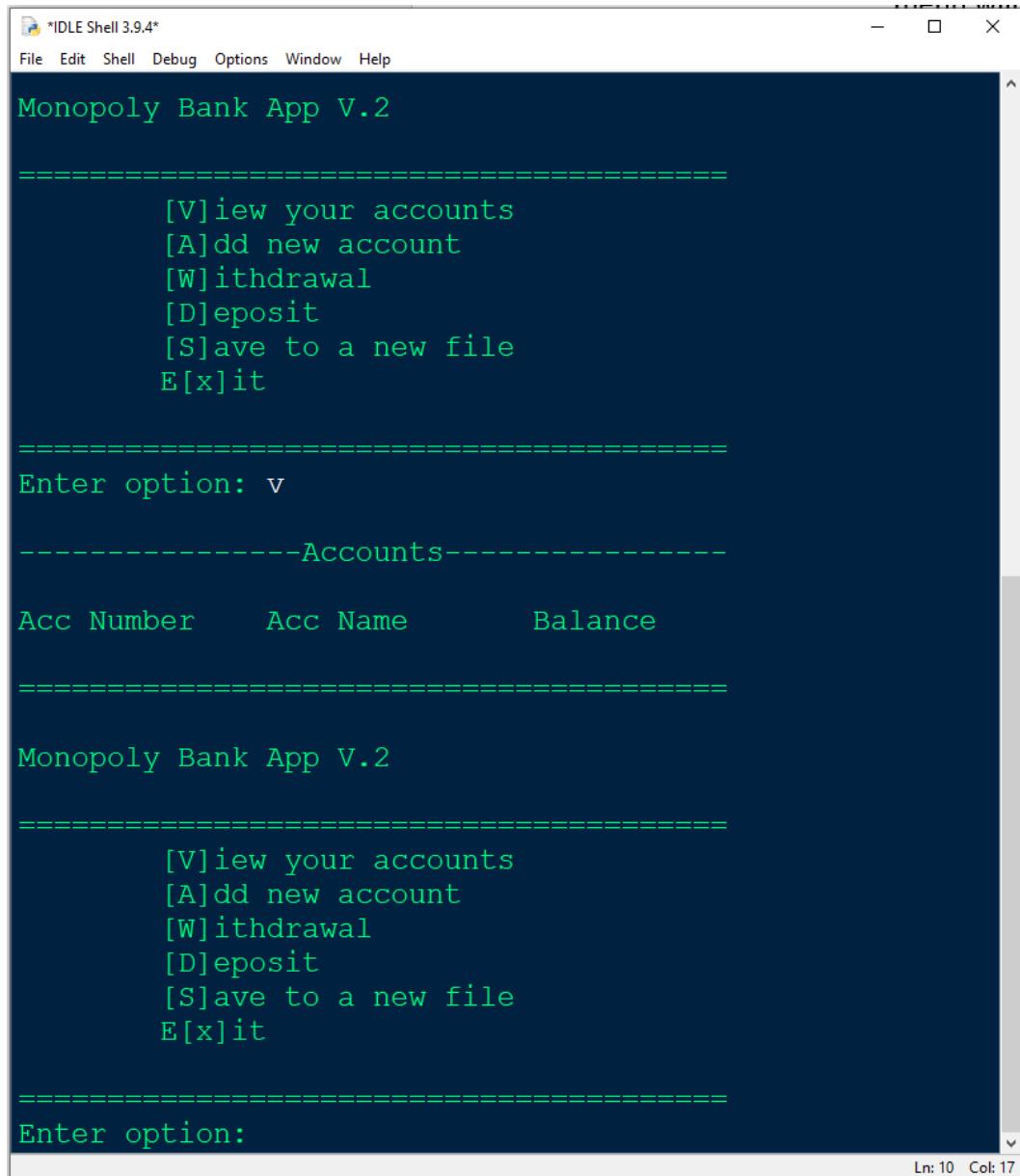
Acc Number	Acc Name	Balance
123455	Savings1	500.00
123456	Savings2	5.75
123457	Holiday	200.00
123458	Bills	95.58
123459	Cheque	80.00
1234567	Xmas2021	500.00
123333	saving23	1.00

The total savings are displayed as "Total Savings \$ 1382.33". Another separator line follows, then the text "Monopoly Bank App V.2". A new menu is presented with options: [V]iew your accounts, [A]dd new account, [W]ithdrawal, [D]eposit, [S]ave to a new file, and E[x]it. The prompt "Enter option: |" is shown at the bottom, along with the status bar "Ln: 94 Col: 14".

As you can see in the screenshot above, I have 7 accounts listed, where were created and saved to a file.

The main menu will automatically prompt for another menu option.

If the customer chooses view accounts without loading an existing account or creating an account, the program will display as below.



The screenshot shows a terminal window titled "IDLE Shell 3.9.4". The window contains the following text:

```
Monopoly Bank App V.2
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

=====
Enter option: v

-----Accounts-----
Acc Number      Acc Name      Balance
=====

Monopoly Bank App V.2
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

=====
Enter option:
```

The window has a standard title bar with icons for minimize, maximize, and close. The status bar at the bottom right shows "Ln: 10 Col: 17".

Withdrawals

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

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

The screenshot shows a terminal window titled '*IDLE Shell 3.9.4*' with the following content:

```
--Accounts--

| Acc Number | Acc Name | Balance |
|------------|----------|---------|
| 123455     | Savings1 | 500.00  |
| 123456     | Savings2 | 5.75    |
| 123457     | Holiday  | 200.00  |
| 123458     | Bills    | 95.58   |
| 123459     | Cheque   | 80.00   |
| 1234567    | Xmas2021 | 500.00  |
| 123333     | saving23 | 1.00    |

Total Savings $ 1382.33=====Monopoly Bank App V.2===== [V]iew your accounts [A]dd new account [W]ithdrawal [D]eposit [S]ave to a new file E[x]it=====Enter option: w=====Enter account number: 123455 Enter account name: Savings1 Enter withdrawal amount:|
```

Ln: 98 Col: 24

In this example Account 123455 has a balance of \$500, if I attempt to withdraw \$600 the program will advise the following.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
Monopoly Bank App V.2

=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

=====
Enter option: w

Enter account number: 123455
Enter account name: Savings1
Enter withdrawal amount:600
Problem, not enough funds to perform this transaction.
=====

Monopoly Bank App V.2

=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

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

On another attempt to withdraw from the same account, I successfully withdraw \$50.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

=====
Enter option: w

Enter account number: 123455
Enter account name: Savings1
Enter withdrawal amount:50

Transaction successful

=====
Monopoly Bank App V.2

=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

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

Ln: 134 Col: 14

Here is the accounts list to confirm the balance of Savings1 is \$450.00

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
E[x]it

=====
Enter option: v

-----Accounts-----
Acc Number      Acc Name      Balance
123455          Savings1      450.00
123456          Savings2      5.75
123457          Holiday       200.00
123458          Bills         95.58
123459          Cheque        80.00
1234567         Xmas2021     500.00
123333          saving23     1.00

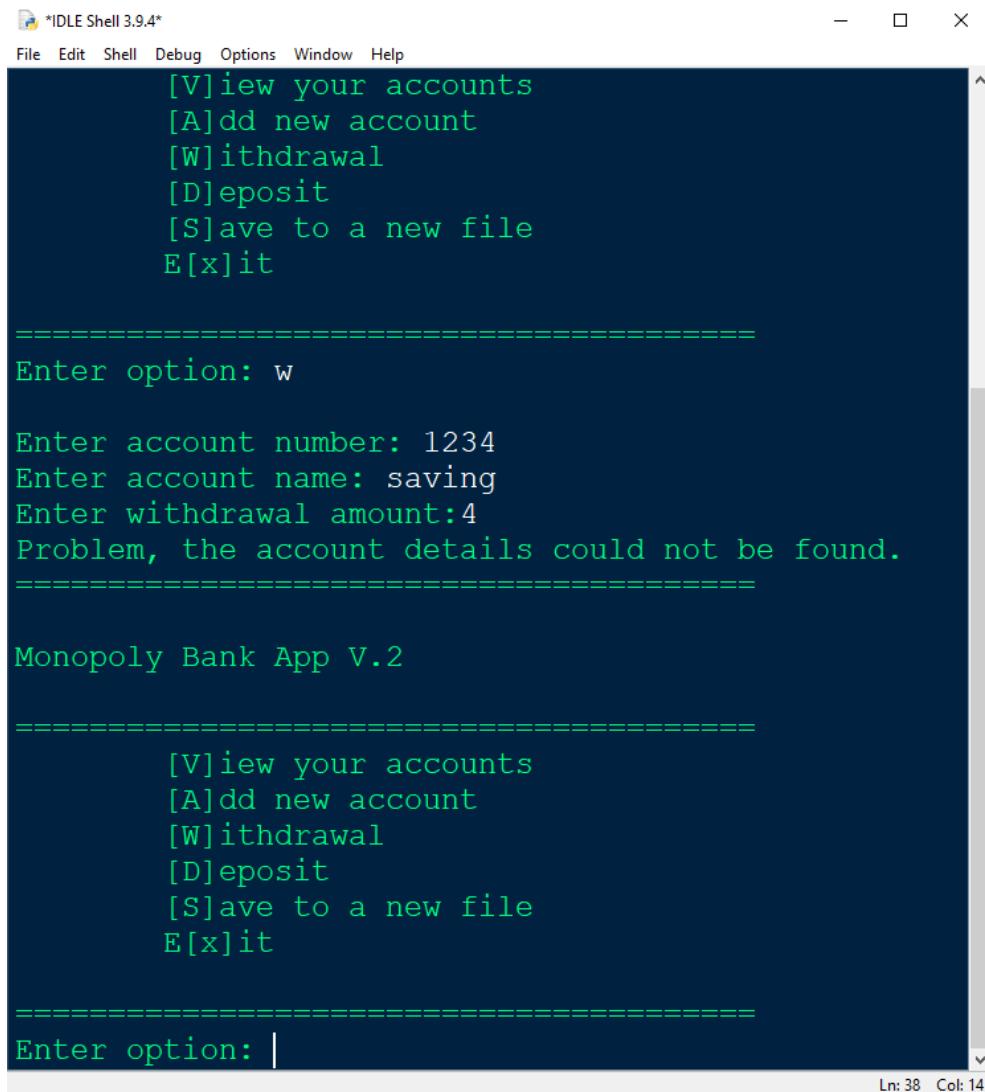
      Total Savings $ 1332.33
=====

Monopoly Bank App v.2
|
=====

[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

=====
Enter option:
Ln: 151 Col: 0
```

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 with the title "*IDLE Shell 3.9.4*". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The main area displays a menu of options:

```
[V]iew your accounts  
[A]dd new account  
[W]ithdrawal  
[D]eposit  
[S]ave to a new file  
E[x]it
```

=====

Enter option: w

Enter account number: 1234
Enter account name: saving
Enter withdrawal amount:4
Problem, the account details could not be found.
=====

Monopoly Bank App V.2

=====

```
[V]iew your accounts  
[A]dd new account  
[W]ithdrawal  
[D]eposit  
[S]ave to a new file  
E[x]it
```

=====

Enter option: |

Ln: 38 Col: 14

Deposit

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.

In this example I will deposit \$50 back into Account number 123455. As you can see in this screen the current balance on Account number 123455 is \$450.00

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
E[x]it

=====
Enter option: v

-----Accounts-----
Acc Number      Acc Name      Balance
123455          Savings1     450.00
123456          Savings2     5.75
123457          Holiday      200.00
123458          Bills        95.58
123459          Cheque       80.00
1234567         Xmas2021    500.00
123333          saving23    1.00

Total Savings $ 1332.33
=====

Monopoly Bank App V.2
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

=====
Enter option:
Ln: 151 Col: 0
```

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 a bank application's user interface and its interaction:

```
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

=====
Enter option: d
Enter account number: p
That wasn't right. Re-enter: 123455
Enter account name: Savings1
Enter deposit amount: 50

Transaction successful
=====

Monopoly Bank App V.2
=====

[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

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

Ln: 181 Col: 14

An error was entered and the program has prompted to re-enter the account number.

As you can see the balance is updated to \$500 below.

```
*IDLE Shell 3.9.4*
File Edit Shell Debug Options Window Help
E[x]it

=====
Enter option: v

-----Accounts-----
Acc Number      Acc Name      Balance
123455          Savings1     500.00
123456          Savings2     5.75
123457          Holiday      200.00
123458          Bills        95.58
123459          Cheque       80.00
1234567         Xmas2021    500.00
123333          saving23    1.00

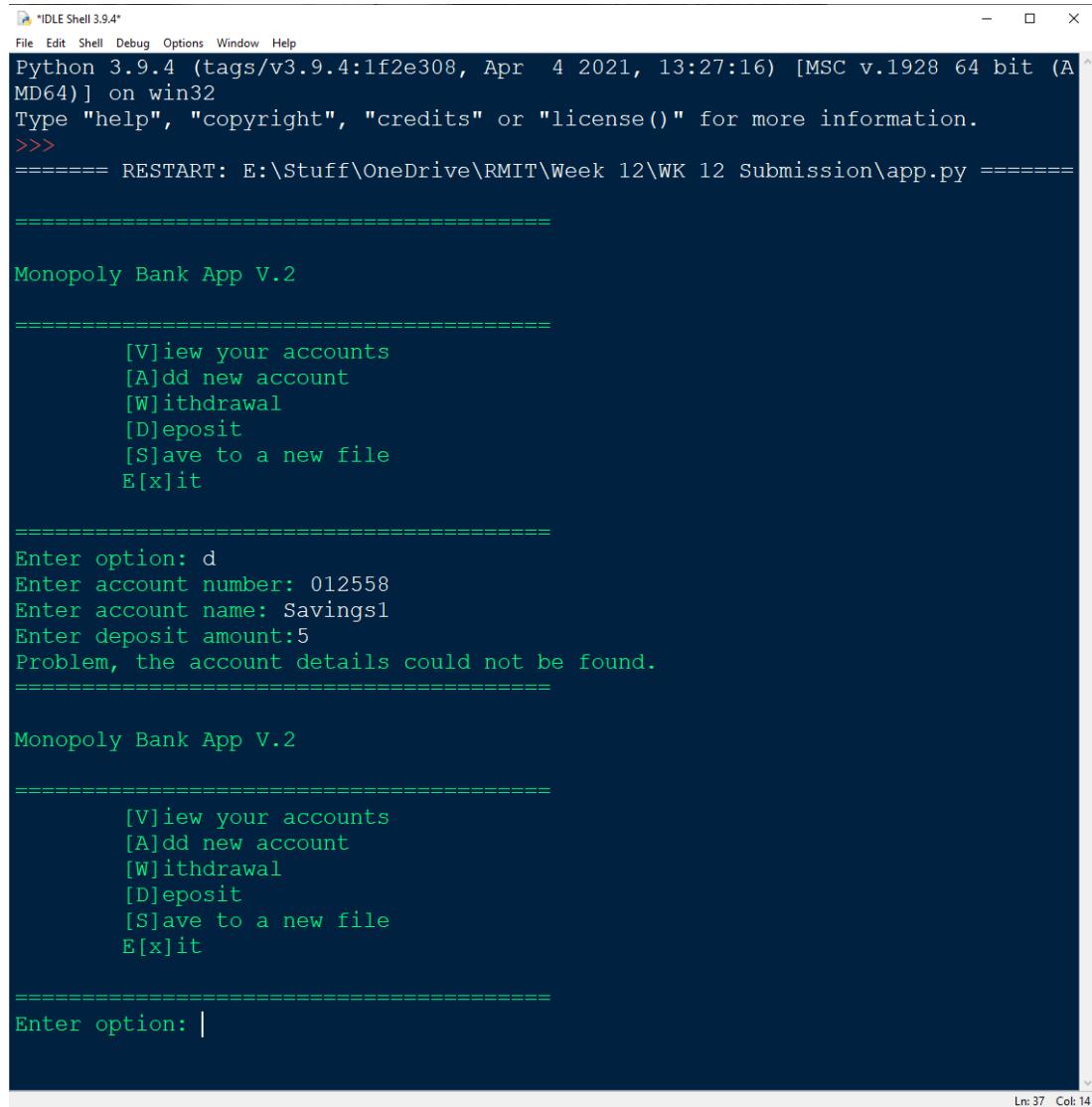
      Total Savings $ 1382.33
=====

Monopoly Bank App V.2

=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

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

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 confirm the account details could not be found.



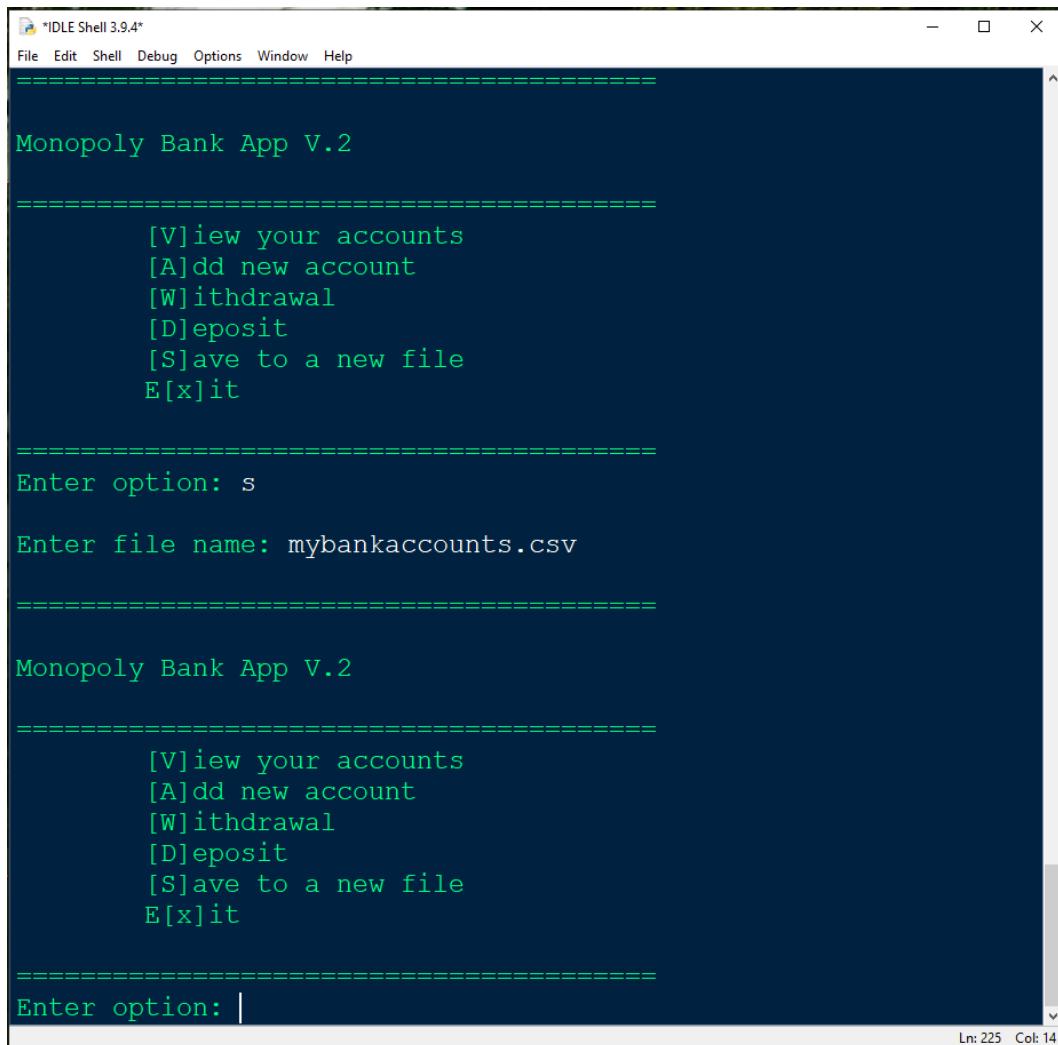
The screenshot shows a Python 3.9.4 shell window titled "IDLE Shell 3.9.4". The window displays the following text:

```
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 (A^
MD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\Stuff\OneDrive\RMIT\Week 12\WK 12 Submission\app.py =====
=====
Monopoly Bank App V.2
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it
=====
Enter option: d
Enter account number: 012558
Enter account name: Savings1
Enter deposit amount:5
Problem, the account details could not be found.
=====
Monopoly Bank App V.2
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it
=====
Enter option: |
```

The window has a standard Windows-style title bar with icons for minimize, maximize, and close. The status bar at the bottom right shows "Ln: 37 Col: 14".

Save to a new file

Although the program will automatically load and save accounts from a specific file, you may want to export this information to a new file. Press S at the main menu and the program will prompt to enter a new file name and it will save a new file to your computer.



The screenshot shows a terminal window titled "IDLE Shell 3.9.4". The window contains the source code for the Monopoly Bank App V.2. The code includes a menu loop with options for viewing accounts, adding new accounts, withdrawal, deposit, saving to a new file, and exiting. It also includes logic for saving accounts to a CSV file when the 'S' option is selected. The terminal shows the execution of the program, including the menu, user input for saving to a new file, and the resulting menu after the save operation.

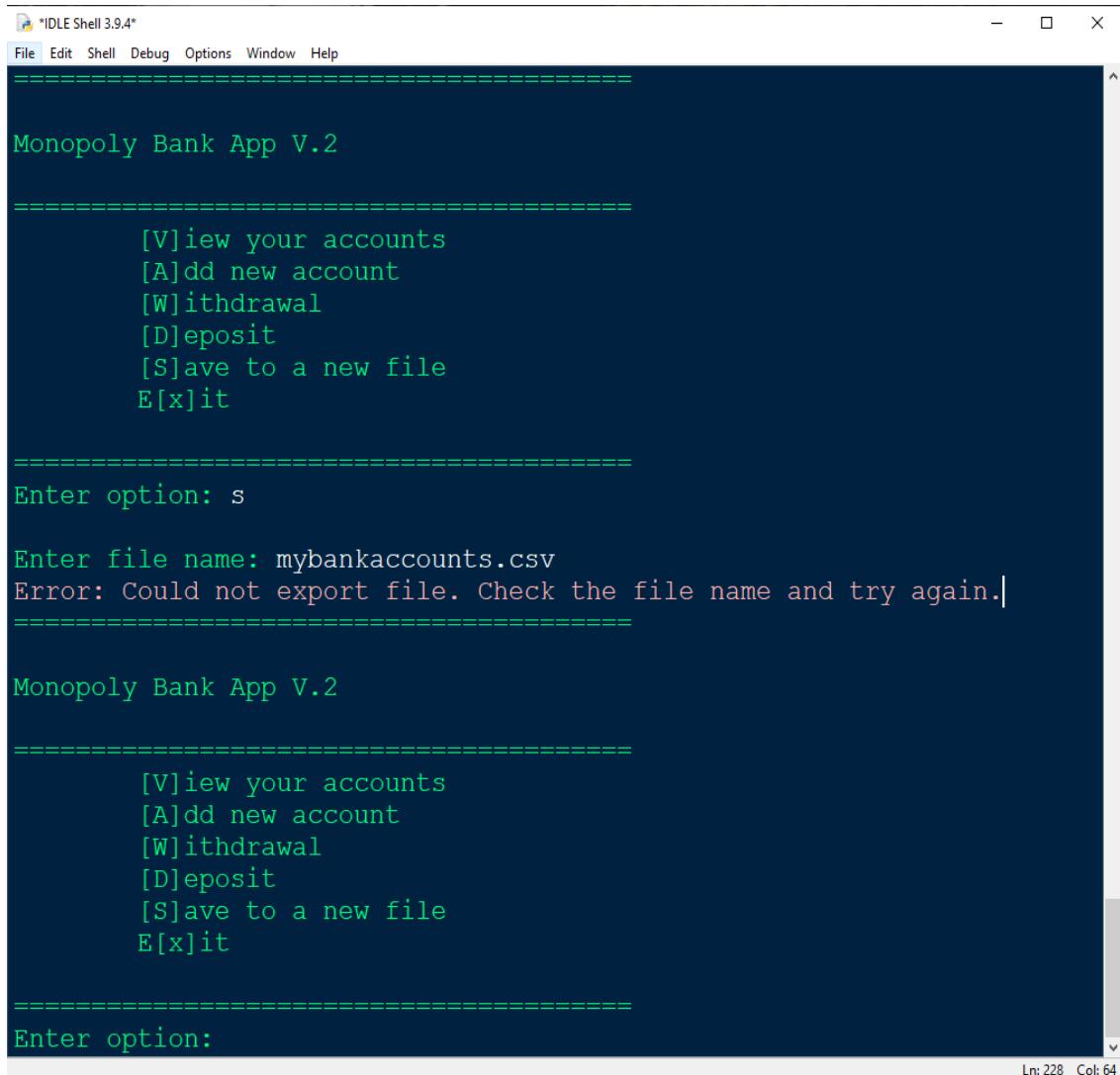
```
Monopoly Bank App V.2
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

Enter option: s
Enter file name: mybankaccounts.csv
=====

Monopoly Bank App V.2
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
E[x]it

Enter option: |
```

If there was an issue with file, such as there may be a technical issue preventing the program to save. A message will appear to confirm this.



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 main window displays the following text:

```
Monopoly Bank App V.2
=====
[V]iew your accounts
[A]dd new account
[W]ithdrawal
[D]eposit
[S]ave to a new file
[E[x]]it

=====
Enter option: s

Enter file name: mybankaccounts.csv
Error: Could not export file. Check the file name and try again.|
```

Below the menu, the application displays its main menu again. At the bottom, it prompts "Enter option:" followed by a cursor. In the bottom right corner of the window, there is a status bar with "Ln: 228 Col: 64".