Chapter 10 – Extra Practice

Extra Practice

Extra practice is for those who would like to do some extra practice projects to further hone their skills learned in each assignment. There are no additional points to be gained by completing these projects.

Email Creator

Create a program that reads a file and creates a series of emails.

```
Email Creator

====================================================================
To:      jbutler@gmail.com
From:    noreply@deals.com
Subject: Deals!

Hi James,

We've got some great deals for you. Check our website!
====================================================================
To:      josephine_darakjy@darakjy.org
From:    noreply@deals.com
Subject: Deals!

Hi Josephine,

We've got some great deals for you. Check our website!
====================================================================
To:      art@venere.org
From:    noreply@deals.com
Subject: Deals!

Hi Art,

We've got some great deals for you. Check our website!
```

Specifications

- Store a list of email addresses in a file using this format:
  ```
  james,butler,jbutler@gmail.com
  josephine,darakjy,Josephine_drakjy@darakjy.org
  art,venere,art@venere.org
  ```

- Store a template for a mass email in a file like this:
  ```
  To:      (email)
  From:    noreply@deals.com
  Subject: Deals!

  Hi (first_name),

  We've got some great deals for you. Check our website!
  ```

- When the program starts, it should read the email addresses and first names from the file, merge them into the mass email template, and display the results on the console.
- All email addresses should be converted to lowercase.
- All first names should be converted to title case.
- If you add names to the list of email addresses, the program should create more emails.
- If you modify the template, the program should change the content of the email that's created.

Interest Calculator

Create a program that calculates the interest on a loan. This program should make it easy for the user to enter numbers.

```
Interest Calculator

Enter loan amount:   $100,000
Enter interest rate: %2.275

Loan amount:          $100,000.00
Interest rate:              2.275%
Interest amount:        $2,275.00

Continue? (y/n): y

Enter loan amount:   100K
Enter interest rate: 2.275

Loan amount:          $100,000.00
Interest rate:              2.275%
Interest amount:        $2,275.00

Continue? (y/n): n

Bye!
```

Specifications

- Use the Decimal class to make sure that all calculations are accurate. The program should round the interest that's calculated to two decimal places, rounding up if the third decimal is five or greater.
- The interest rate that's displayed can have up to 3 decimal places.
- Assume that the user will enter valid decimal values for the loan amount and interest rate with these exceptions:
    - If the user enters a dollar sign ($) at the beginning of the loan amount, remove it from the string before converting the string to a number.
    - If the user enters a comma in the loan amount, remove it from the string before converting the string.
    - If the user enters a K at the end of the loan amount, remove the K from the end of the string, and multiply the loan amount by 1000. For example, a loan amount of 50K should be converted to a value of 50,000.
    - If the user enters a percent sign (%) before of after the interest rate, remove it from the string before converting the string to a number.