Lab 09 Text Processing

Note: The underlined text is an input data.

1. Write the program that reads bank transaction data from file (given by command-line arguments) and print out transaction and account balance, all numbers are in 2 decimal places and have thousand separators.

The bank transaction data are in the following.

```
customer_first_name customer_last_name
number_of_transactions
transaction_code1 transaction_value1
transaction_code2 transactoin_value2
...
```

The `transaction_code` is used internally by Bank System and they are **unknown** for us but we know 3 codes for calculating account balance:

`deposit`   for depositing money, always positive number.

`withdraw`   for withdrawing money, always positive number.

`transfer`   for transferring money, positive number for transferring in and negative number for transferring out.

The `transaction_code` may be **mixed up** with **capital letters** and **normal letters**.

File: `ass-01-input-01.txt`

```
Adam Smith
10
DEPOSIT 1000.75
dEpOsIt 400
withdraw 100
WITHDRAW 49.50
wItHDrAw 49.50
balANCE 20
DEPOXXX 10
TransFer -500
TRANSFER 300
Opposit 200
```

Example: `php ass-01.php ass-01-input-01.txt`

```
Transaction for:
     First name: Adam
      Last name: Smith
Number of transactions: 10
        DEPOSIT:            1,000.75
        dEpOsIt:              400.00
        withdraw:             100.00
        WITHDRAW:              49.50
        wItHDrAw:              49.50
        balANCE:               20.00
        DEPOXXX:               10.00
        TransFer:            -500.00
        TRANSFER:             300.00
        Opposit:              200.00


Account Balance:            1,001.75
```

2. Write the program that generates product code from given pattern and product names,

    given from file, both are given by command-line arguments.

    The command-line arguments are in the following pattern.

    ```
    php ass-02.php pattern product_names_filename
    ```

    The pattern is in the following format.

    ```
    XXssss...
    ```

    Where XX is product prefix code (2 characters) and ssss... is a serial number that can be

    vary length and specify the starting number, e.g. PD00050, BK010 or CC0000111.

    The product names are in the following format.

    ```
    number_of_data
    product_name1 may contain spaces
    product_name2 may contain spaces
    ...
    ```

    Hint: Because product names may contain spaces so you may have to use fgets()

            instead of fscanf().

    File: ass-02-input.txt

    ```
    7
    Book
    Note book
    Eraser
    Ruler
    Pen
    Clutch-type pencil
    Calculator
    ```

    Example-01: php ass-02.php PD00050 ass-02-input.txt

    ```
    PD00050 Book

    PD00051 Note book

    PD00052 Eraser

    PD00053 Ruler

    PD00054 Pen

    PD00055 Clutch-type pencil

    PD00056 Calculator
    ```

Example-02: `php ass-02.php BK010 ass-02-input.txt`

```
BK010 Book

BK011 Note book

BK012 Eraser

BK013 Ruler

BK014 Pen

BK015 Clutch-type pencil

BK016 Calculator
```

Example-03: `php ass-02.php CC0000111 ass-02-input.txt`

```
CC0000111 Book

CC0000112 Note book

CC0000113 Eraser

CC0000114 Ruler

CC0000115 Pen

CC0000116 Clutch-type pencil

CC0000117 Calculator
```

3. Write the program that corrects the special names in text file with the given list of special names.

    The command-line arguments are in the following pattern.

    ```
    php ass-03.php text_filename names_list_filename
    ```

    The text file may consist of multiple line and some names may span **across multiple line**.

    The list of names is in the following format

    ```
    name1 may contain spaces
    name2 may contain spaces
    ...
    ```

    Hint: Both text file and list of names do not have number of data so you may have to use

    `feof()` and the help of `fgets()`.

    The program will replace the special names in text file with **first capital letter of word**. And only

    replace the special names that are given by list of special names file. The output will be **1-line**

    output but may appear multiple line by the limitation of terminal displaying.

    File: `ass-03-text.txt` (this file must have 7 lines, include the last blank line)

    ```
    Chiang mai university (CMU) was founded in january 1964, under a royal
    charter granted by his majesty king bhumibol adulyadej. CMU is the first
    provincial university in thailand, based on the government's policy and
    the objectives of the northern people, as a center for academic and
    occupational knowledge in order to benefit the region and the country
    as a whole.
    ```

    File: `ass-03-names-01.txt` (mixed up with capital letters and normal letter)

    ```
    chiang mai university
    his majesty King bhumibol Adulyadej
    Knowledge Management
    thaiLand
    ```

    File: `ass-03-names-02.txt` (mixed up with capital letters and normal letter)

    ```
    chiang mai university
    his majesty King bhumibol Adulyadej
    januaRy
    February
    Royal charter
    ```

Example: `php ass-03.php ass-03-text.txt ass-03-names-01.txt`

Chiang Mai University (**CMU**) was founded in **january** 1964, under a **royal charter** granted by **His Majesty King Bhumibol Adulyadej**. **CMU** is the first provincial **university** in **Thailand**, based on the government's policy and the objectives of the northern people, as a center for academic and occupational knowledge in order to benefit the region and the country as a whole.

Example: `php ass-03.php ass-03-text.txt ass-03-names-02.txt`

Chiang Mai University (**CMU**) was founded in **January** 1964, under a **Royal Charter** granted by **His Majesty King Bhumibol Adulyadej**. **CMU** is the first provincial **university** in **thailand**, based on the government's policy and the objectives of the northern people, as a center for academic and occupational knowledge in order to benefit the region and the country as a whole.

Remark: The blue colors just indicate the names that **was changed** and not colored in output.

The red colors just indicate the name that **was not changed** and not colored in output.

Optional: How will you make the output that preserves the new line format same as text file?