

## Lab 09 Text Processing

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**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?