

CMPS 2010 Lab 5

Fall 2024

Program 1 - Files and Command Line Arguments (lab5-1.cpp)

Write a program that does the following:

1. Require the user to provide input and output file names as command line arguments.
2. Open an ifstream and ofstream using the file names provided in step 1.
3. Use a while loop with **get()** to read one character at a time from the input file and do the following:
 - a. Convert all lowercase characters (a-z) to uppercase (hint: use **islower()** and **toupper()**)
 - b. Replace all spaces with an underscore character
 - c. Prevent vowels from being written to the output by doing the following:
 - i. Check if the character is NOT a vowel
 - ii. Use **put()** to write the modified character to the output file
4. Close the ifstream and ofstream.
5. Use the text from this file to test your program: <https://cs.csub.edu/~paul/cs2010/labs/input.txt>

The text in the output file should look something like this:

```
SCCSSFL_CMPL,_SCCSSFL_CMPL,  
FTR_CDNG_FR_DYS__CN_FNLLY_SML!  
_HV_FNLLY_WN!_HV_BTN_TH_DDS,  
"BT_DSSTR_WTS",_WRN_TH_PRGRMMNG_GDS!  
T_HS_LL_BN_RS,_JST_N_TRGC_DCPTN,  
S_MY_PRGRM_CRS_T_WTH__FTLXCPTN!
```

Program 2 - Functions and For Loops (lab5-2.cpp)

Write a program that does the following:

1. Define and use the following three functions:
 - a. `void getWholeNumber(int &num)`
 - b. `bool isPrime(int num)`
 - c. `void printFactors(int num)`
2. `getWholeNumber(int &num)` will request a whole number, validate the input, then store the value in `num`.
3. `isPrime(int num)` will use a for loop to check if `num` is prime. Return `true` if it is prime, and `false` if it is not.
4. `printFactors(int num)` will use a for loop to print out all of the factors of the provided `num`.
5. Use prototypes to DECLARE your functions before `main()`, then DEFINE the functions after `main()`.

The program output should look something like this:

```
Please enter a WHOLE NUMBER: 250  
  
250 is NOT prime!  
The factors of 250 are:  
1 2 5 10 25 50 125 250
```

Run this command from your [lab5](#) folder to submit your work.

```
/home/fac/paul/s/submit.sh
```