

CS201 Programming Problems

For the first four problems, your programs should read a text file from `stdin` and write to `stdout`. In all problems, keep `main` simple, use functions. Save your work in files named `p01.c`, `p02.c`, etc., in a subdirectory of your home directory named `Homework`. Due Feb 15, 2016.

1. Write a `C` program that counts the number of lines. Output: `one integer`.
2. Write a `C` program that counts the number of words that have exactly four letters. Output: `one integer`.
3. Write a `C` program that reads a list of integers and prints the largest integer. Output: `one integer`.
4. Write a `C` program that prints the command line arguments in forward order, one per line.
5. Write a `C` program that reads words from a text file named as a command line argument prints the longest word.
6. Write a `C` program that reads words from any text file named as a command line argument, stores the words in a binary tree, and prints the words in order. Use the following structure.

```
typedef struct wordcount {
    char *word;
    struct wordcount *left, *right;
} WORD;
```

7. Write a `C` program that reads words from any text file named as a command line argument and stores the words in a binary tree. Keep a count of each word and print the word that appears the most. Use the following structure.

```
typedef struct wordcount {
    char *word;
    int count;
    struct wordcount *left, *right;
} WORD;
```