

課題

文字列処理

課題 2. `scanf("%s", str);` で配列 `str` に半角英数字の文字列を入力する。文字列中の英字小文字は大文字に変換し、英字大文字は小文字に変換する。その変換結果の文字列を出力するプログラム `upper-lower.c` を作成せよ。例えば、入力 `"cHubU"` は、`"ChUBu"` に変換され、出力される。

課題 3. 半角英数字からなるテキストファイルを読み込み、そのテキストファイル中の英単語数を数え出力するプログラム word-count1.c を作成せよ。このプログラムは、例えば、次のように動作する：

```
luna7% cat sample1.txt
Chubu University expanded in 1984 when the College of Business
Administration and Information Science and the College of
International Studies were added to the original College of Engineering.
Further expansion occurred in 1998 with the establishment of
the College of Humanities. The College of Bioscience and Biotechnology,
which opened its doors in 2001, the College of Life and Health Sciences,
which started in 2006, and the College of Contemporary Education,
which established in 2008, further reinforce Chubu University's
metamorphosis into a truly comprehensive university.
luna7% gcc word-count1.c
luna7% a.out < sample1.txt
全部で 84 語ありました
luna7% wc sample1.txt
 9 84 583 sample1.txt
luna7%
```

課題 4. プログラム word-count1.c を改良し、次のように、単語の前後に複数の空白があっても、また空行が存在していても正しく動作し、正しい単語数を出力するプログラム word-count2.c を作成せよ。

```
luna7% cat sample2.txt
    Chubu University expanded in 1984    when the College of Business
Administration    and Information Science    and the College of
    International    Studies were added to the original College of Engineering.

    Further expansion    occurred in 1998 with    the establishment of
the College of Humanities.    The College of Bioscience    and Biotechnology,
which opened its doors in 2001, the College of Life and Health Sciences,
    which started in 2006, and    the College of Contemporary Education,
    which established in 2008, further    reinforce Chubu University's
metamorphosis    into a    truly    comprehensive university.
luna7% gcc word-count2.c
luna7% a.out < sample2.txt
全部で 84 語ありました。
luna7% wc sample2.txt
 10 84 638 sample2.txt
luna7%
```