Homework Assignment #1 CS2600

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Due date

Turn in solutions to the homework exercises listed below by Sunday, Jan. 29. For this first homework, submissions more than one day late will not be accepted for credit.

0.1 Short exercise

P&H Problems 3.2.1(a and b), 3.2.3(a and b) on page 284.

0.2 Longer exercise: Base conversion

Place your answer to this question in a file named "convert.c". Write a C program called convert that takes three command line arguments[1]: a numeral, an input base (expressed in decimal), and an output base (also in decimal). It should print the value represented by the numeral as interpreted in the input base, translated into the output base. For example:

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[1] Command line arguments are explained in K&R, Sec. 5.10. If you have trouble understanding the first program on page 115, get someone to help you.

```
% convert 43 8 10
35
% convert fff 16 10
4095
% convert 1001 2 7
12
```

The program should work with any input and output radix between 2 and 36, using the digits 0 to 9 and a to z. Hint: Convert to internal integer form as an intermediate step. You may not call the C library functions atoi ( ) or strtol ( ) or any other library functions to convert the input numeral.

Bigger hint: The index in Kernighan and Ritchie's book will direct you to several versions of the code for atoi ( ). Copy and use the code for the simplest version available: this programming exercise calls out for maximum simplicity.

And for sending output to the screen, use the code for printd() on page 87 as a model.