CS2110: Warm up exercises

August 5, 2013

Note1: Usage of libraries such as math.h is strictly prohibited.
Note2: Name the files as 1.c, 2.c, 3.c ..., for evaluation purposes.

1. Given N X Y add all natural numbers below N that are multiples of X or Y. For example, with an input like 10 3 5, output a single digit 23 (N = 10, X = 3, Y = 5).

2. Find the power of 2 nearest to N. When N is exactly between 2^{d} and $2^{\mathrm{d+1}}$, output d + 1. For example, for an input of 30, print 5.

3. Given a number N, if it is a multiple of 7, find the sum of its digits, else find the product of them. For example, for an input of 35, print 8. For an input of 16, print 6.

4. Given a roman numeral(in caps) between 1 and 30, print decimal form. For example, XIV should output 14. (Use switch)

5. Find the factorial of a number, recursively. For example, given input 5, print 120.

6. Find the binomal coefficient, ${}^{n}\mathrm{C}_{k}$, recursively. Choose the appropriate recursive form that will compute the coefficients quickly. For example, for an input 9 2 (N and K), print 36.

7. Print a string entered by the user in reverse, using recursion. For example, given 'Apples are red', print 'der era selppA'.