

CGS 3460 Computer Programming Using C, Spring 2008

Homework 1

Due Monday, January 28 2008, before 11:59:59pm

Notes

- All submissions must be done electronically via the Courseworx system linked from the website.
 - Create a separate C source file for each problem. Problem 1 must be in `p1.c`, Problem 2 in `p2.c` and Problem 3 in `p3.c`.
 - Use `tar` to combine all the files into the file `H1.tar`. To do this, type `tar -cvf H1.tar p1.c p2.c p3.c` on the command line. You must only upload `H1.tar` to Courseworx.
 - Once you've uploaded the file, download the file and untar it using the command `tar -xvf <filename>`. Display each extracted file to verify your programs are intact.
 - Submit C source files *only* (files with `.c` extension). We will compile and run them.
 - The first three lines of each C source file must contain your Full Name, UFID and Gatorlink ID as comments.
 - Make sure that your code compiles and runs correctly on one of the following CISE machines: `sand.cise.ufl.edu`, `rain.cise.ufl.edu`, `shine.cise.ufl.edu`, `bay.cise.ufl.edu`.
 - When obtaining input, be sure to prompt the user appropriately.
1. Write a C program to display your picture in ASCII. (You may use an image-to-ascii converter such as <http://www.text-image.com/convert/ascii.html> to first convert your image to ASCII text). The (ASCII) image width should not be more than 80 characters.
 2. Today, a Euro is worth \$1.46, a Canadian Dollar is worth \$0.98 and a Swiss Franc is worth \$0.92. Write a C program that asks the user to enter an amount in US dollars, and displays the equivalent values in these three currencies.
 3. Write a C program that allows the user to enter five numbers, and computes (and displays) their sample variance. Recall that the sample variance of a sample of size n is $\frac{1}{n-1} \sum_{i=1}^n (y_i - \bar{y})^2$, where y_i is the i^{th} sample and \bar{y} is the sample mean.