School of Computer Science
University of Guelph

CIS*3490 The Analysis and Design of Algorithms

Winter 2017
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Assignment 2 Guide

1.1 You can develop a brute force alsorithm based on the definition of *inversion*.

1.2 You can modify the mergesort algorithm to count the number of inversions in $n \log n$ time.

2.1 You can develop a brute force alsorithm based on the definition of *convex hull*.

2.2 You can design a divide-and-conquer algorithm of $\Theta(n \log n)$ based on the idea of quicksort.

1.3, 2.3 You can develop your programs using any C system, as long as your programs can be correctly executed on the Linux system in SOCS.

You are allowed to use standard library functions. Your programs should be submitted as a tar file containing something like

readme.txt, main.c, P11.c, P12.c, P21.c, P22.c, makefile.

Any compilation error or warning will result in a mark deduction. There will be some marks allocated for documentation.

Each file should have a comment at the beginning containing your name, id, date, and the assignment name.

The readme file should contain the following:

- name, id and assignment number
- a brief description of how to run each program.

Each function should have a brief comment describing its purpose. Also, any section of code where it is not easily apparent what the code does should have a short comment.

C function *ftime()* can be used to get the system time usage.