School of Computer Science
University of Guelph

CIS*3490 The Analysis and Design of Algorithms

Winter 2019
Instructor: Fangju Wang

Assignment 4 Guide

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 your program files and readme and makefile. The readme file should contain a brief description of how to compile and run each program.

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. 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. Your programs are not required to report running time.

Hints for individual questions:

- For Q1, you can follow the algorithm on page 302 in the textbook.
- For Q1, your program output can be something like:

```
Enter a key: undergraduate
Compared with of (6.15), go right subtree.
Compared with the (1.98), go right subtree.
Compared with university (0.42), go left subtree.
Compared with to (0.16), go right subtree.
Compared with undergraduate (0.05), found.
```

- For Q2, your program output can be something like:

```
Enter a key: wine
Compared with the (0.0611), go right subtree.
Compared with to (0.0308), go right subtree.
Compared with university (0.0181), go right subtree.
Compared with with (0.0054), go left subtree.
Compared with which (0.0039), go right subtree.
Compared with winter (0.0020), go left subtree.
Compared with will (0.0015), go right subtree.
Not found.
```