CIS 121 Guide

Written Homework Guidelines and Requirements

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For written homeworks, we require that you follow these guidelines:

1. **Using LaTeX**
    a. All your written homeworks should be typeset in LaTeX. Many online resources are available online that explain how to install it. You generally must install a distribution such as MiKTeX then install a software that compiles LaTeX, such as Texmaker.
    b. We require that you stick to some template. On the course-website (**homeworks tab**), we provide such template with its associated. cls file (a package that you can use to conveniently format your LaTex documents). Alternatively, you can download and unzip this file that contains all the files needed: latexTemplate.zip

2. **Using References (if needed!)**
    a. We encourage you to use references you find to supplement your answers on the homework. Part of being good at solving problems is using previously solved problems to your advantage. But please make sure to stick to the following sources **only**:
        i. Textbook (CLRS)
        ii. Lectures (What Professor Rajiv teaches you)
        iii. Readings (Assigned by Professor Rajiv)
        iv. Recitation labs (PDFs that you find on the Course Website)
    b. Examples of sources we will not accept are statements said by TAs in recitations. We will certainly not accept references from other online sources (you should not visit StackExchange!)
    c. *However*, please make sure to reference it correctly (reading name, page, etc...). If you are not accurate in your reference, we might not consider it.

3. **Describing Algorithms**
    a. Many problems in CIS 121 require you to come up with algorithms (in homeworks and tests alike). When we ask you to do so, we expect the following three steps (except when otherwise noted!):
        i. *Description of Algorithm:* use plain language. Avoid pseudocode. Do NOT type code.
        ii. *Proof of Correctness:* Sufficiently rigorous. Covers all cases if needed. Proving that the algorithm works on all correct inputs, fails on all incorrect inputs, and terminates.
        iii. *Proof of Runtime Bound:* Same as above. You have to prove the runtime of all the operations involved in your algorithm, generally involving the time needed to construct your data structures. If in class you learned a specific

algorithm with its runtime, you do not have to prove it anymore as you can simply cite it.

4. **Drawing Trees**
    a. In some homeworks, you might need to draw trees in LaTeX. You can use this online (free!) resource to draw trees quickly and generate LaTeX code for them. The instructions for drawing trees are at the bottom of the linked page.
    b. To export to LaTeX, hit the LaTeX link on the page. Make sure to add the package **tikz**:

```
\usepackage{tikz}
```

or your LaTeX code won't compile.

5. **Selecting Pages on Gradescope**
    a. **It is absolutely necessary** for you to select the appropriate pages on Gradescope before submitting a written homework. Gradescope makes this easy for you: before you submit, it asks you to associate pages with the homework questions. Failing to do so will get you points off, which cannot be argued against after the fact.

Should you have any questions, please do not hesitate to post them on Piazza, or bring them to Office Hours!