

This book is meant to be a solutions manual for the text *Introduction to Algorithms* by CLRS, and this preface is meant to introduce how the material will be structured and what it will cover. With this text I plan to thoroughly cover each section and problem not marked with a star (★). Perhaps these will be covered in a later edition, but this is my current mission. I'm doing this not out of generosity but because I wish to develop myself as a software engineer and as an academic. However, this should hopefully serve other students in their pursuits of the same. I'm not looking for profit in my endeavors either, as I feel this is more of a personal passion. I hope you don't use this as a homework dodging mechanism but as a way to deepen your understanding of algorithms.

I know I said this was a solutions manual, but it is, in fact, much more. If I feel the authors did not fully explain a concept, I will provide extra notes. These will normally cover background mathematics or "fill in the gaps" as they say. After that, we will create any data structures mentioned in my practical language of choice – C++. Of course, just printing the code isn't going to help many students, so I will provide the code itself in separate files. After, I've defined our data structures, I will move on to actually providing solutions. Each solution will be detailed and thorough. They will walk you through thought processes, outline solutions, and then solve the problems. Some problems have been solved by CLRS and are publicly available on their website (<https://mitpress.mit.edu/algorithms>). If a solution is publicly available, I will mark it with a star (★). Note that this is NOT the notation CLRS uses. Instead they refer to starred problems as graduate level.

I chose C++ for no shortage of reasons. Firstly, it's well known. Secondly, it provides classes. Thirdly, it provides pointers. Fourthly, it provides basic functional programming. And lastly, it provides operator overloading. I might not use all of these features, but them existing has convinced me that this is the right choice. C++ aficionados, please don't crucify me. I don't use the language professionally nor do I have much experience with it.

I don't claim to have perfect answers. If you would like to submit your own and believe it to be better than mine, please send it to me and I will credit you if I choose to include it (and if you want to be credited). However, I ask that you provide a few things lest it will not be added. Firstly, provide explanations as detailed or more detailed than my own. Secondly, provide a  $\LaTeX$  file I can use to reproduce your result without much effort. Lastly, provide me a way to contact you along with a short description of who you are and if you'd like to be credited. Thank you for your support.