Welcome to Data Structures!

Step 1

Welcome to *Data Structures*!

This interactive textbook was written with the intention of teaching Computer Science students about various data structures as well as the applications in which each data structure would be appropriate to use.

This textbook utilizes the Active Learning approach to instruction, meaning it has various activities embedded throughout to help stimulate your learning and improve your understanding of the materials we will cover. You will encounter **STOP and Think** questions that will help you reflect on the material, **Exercise Breaks** that will test your knowledge and understanding of the concepts discussed, and **Code Challenges** that will allow you to actually implement some of the algorithms we will cover.

Note that the **Code Challenges** are in C++, meaning it is a good idea to familiarize yourself with C++ syntax prior to beginning this textbook. However, also note that the emphasis of this textbook is on *theory*, which is language-agnostic, so even without C++ experience, you will still be able to take away the important points we discuss. Nevertheless, we hope to add support for other languages in the **Code Challenges** in the future.

Happy learning!

Niema Moshiri and Liz Izhikevich

Step 2

About the Authors

Niema Moshiri is a Ph.D. student in University of California, San Diego's Bioinformatics and Systems Biology (BISB) program. His educational background is in Bioinformatics, which spans Computer Science (with a focus on Algorithm Design) and Biology (with a focus on Molecular Biology). He is co-advised by Siavash Mirarab and Pavel Pevzner, with whom he performs research in Computational Biology with a focus on Phylogenetics and Phylogenomics.

Liz Izhikevich is completing her Bachelors in Computer Science with a Minor in Mathematics at the University of California, San Diego. She has spent over a year working with and developing the content of multiple Advanced Data Structures courses at UCSD. She is also the co-founder of Data Science Student Society (DS3) and does research focused on the intersection of Data Science and Computational Neuroscience in Bradley Voytek's lab.

Step 3

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