Introduction to the Kontinua Sequence

This book will start you on the long and difficult trek to becoming a modern problem solver. Along the path, you will learn how to use the tools of math, computers, and science.

Why should you bother? There are big problems in this world that will require expert problem solvers. Those people will make the world a better place while enjoying interesting and lucrative careers. We are talking about engineers, scientists, doctors, computer programmers, architects, actuaries, and mathematicians. Right now, those occupations represent about 6% of all the jobs in the United States. Soon, that number is expected to rise above 10%. On average, people in that 10% of the population are expected to have salaries twice that of their non-technical counterparts.

Solving problems is difficult. At some point on this journey, you will see people who are better at solving problems than you are. You, like every other person who has gone on this journey, will think "I have worked so hard on this, but that person is better at it than I am. I should quit." Don't.

First, solving problems is like a muscle. The more you do, the better you get at it. It is OK to say "I am not good at this yet." That just means you need more practice.

Second, you don't need to be the best in the world. 10 million people your age can be better at solving problems than you, *and you can still be in the top 10% of the world*. If you complete this journey, there will be problems for you to solve and a job where your problem-solving skills will be appreciated.

Where do we start?

The famous physicist Richard Feynman once asked this question: "If, in some cataclysm, all of scientific knowledge were to be destroyed, and only one sentence was passed on to the next generation of creatures, what statement would contain the most information in the fewest words?"

His answer was "All things are made of atoms—little particles that move around in perpetual motion, attracting each other when they are a little distance apart, but repelling upon being squeezed into one another."

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That seems like a good place to start.

This is a draft chapter from the Kontinua Project. Please see our website (https://kontinua. org/) for more details.

APPENDIX A

Answers to Exercises



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