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What is Software Engineering?

Before entering this class, I had only a broad sense of software engineering, thinking of it only as a profession where people design specific software. However, I now understand that there are much more specificities involved. Firstly, I learned that software engineering deals with all aspects of software production, including design, development, maintenance, testing, and manufacturing. Additionally, I was unaware that software could be designed to be vertical or horizontal. Vertical software is created for one specific use for a particular market (ex., QuickBooks or CRM), and horizontal software is created for multiple uses for a wide range of industries (ex., Word or Excel). Therefore, it is integral for a software engineer to know which type of software is desired in order to save time and money during the design and development phases. Further, I was unaware of how much time and money was spent on testing software. I learned that over 40% of software engineering costs are taken up by testing. While costly, the testing phase of production is valuable and critical, as it sets the software up for success, eliminating unwanted bugs or issues. Finally, and perhaps most importantly, I now understand the most pressing challenges of software engineering: increasing demands and reduced delivery times. Creating effective software for larger and more complex systems takes ample time and resources to perfect. People often lack knowledge about how these increased standards affect production and, therefore, set unrealistic expectations on how and when these qualifiers can be

met. Considering this, I am excited to learn more about software engineering, including learning more about the topic as a whole as well as how to be efficient in the process.