**As of this moment, what academic areas seem to fit your interests or goals most comfortably? Please indicate up to three from the list provided.**

Mathematics and Philosophy

Computer Science and Mathematics

**Why do these areas appeal to you? (100 → 99)**

I love the game of chess. The rules are quite basic, yet they give rise to endless possibilities for outcomes after each move. Furthermore, because there is no chance involved, you are the master of your own fate. Math, philosophy, and computer science have these same properties. Each of these subjects has a framework in which logic is key, and once one learns it they are capable of anything. Want to prove a promising conjecture, argue in favor of a certain moral system, or build an app to make your life easier? All you need is concentration and thought.

**What is it about Yale that has led you to apply? (125 → 125)**

Yale’s emphasis on a liberal arts education is a strong draw for me. While I definitely am more inclined towards the subjects listed above, I am interested in other fields. In fact, one of my favorite classes throughout high school was AP English, in which my teacher ran a free-form class where any topic, from the ethical implications of literary characters to the role of STEM in one’s education, was up for discussion. I loved this approach to learning because it allowed me to synthesize my previous learning and alter my outlook on the world. Professor Gaddis’ Grand Strategy class, which examines the cross-section of history, literature, and philosophy, is one of many classes at Yale that appeals to me because of its cross-disciplinary nature.

**What inspires you? (35 → 34)**

The immigration of each of my grandparents serves as a chief source of inspiration. All came here with little money, uncertain of whether they would see home again, to provide opportunities for my parents.

**Yale’s residential colleges regularly host conversations with guests representing a wide range of experiences and accomplishments. What person, past or present, would you invite to speak? What question would you ask? (35 → 35)**

To Alan Turing, who cracked the enigma using the first computer, I would ask: Which was the bigger motivator for you, the computational curiosities presented by the problem or a desire to save your country?

**You are teaching a Yale course. What is it called? (35)**

“Primes and Passwords”: A course examining the role of number theory in modern cryptography that would culminate in a final project in which students would construct and implement an original cryptographic algorithm for network operations.

**Most first-year Yale students live in suites of four to six people. What do you hope to add to your suitemates’ experience? What do you hope the will add to yours? (35 -> 35)**

I offer ready companionship for whatever adventure presents itself, a sense of humor for times of stress, and emotional support. I hope they would be eager for friendship and change my worldview in some way.

**Select two of the following topics (250 each):**

**Think about an idea or topic that has been intellectually exciting for you. Why are you drawn to it? (247)**

Since I was first introduced to numbers, I have always been interested in their patterns. There are infinite numbers of these patterns, and finding one is exhilarating because they are beautiful.

As I advanced through my education, I began to lose an appreciation for the simplest of these patterns and instead focused on topics predominantly based on their complexity. I wanted to distance myself from what I viewed as “simple” math and learn solely about that which could only be understood with years of mathematical education. However, last summer I took a course on number theory, the examination of these most fundamental patterns of numbers, that changed my outlook on math. Rather than just searching for patterns in the infinite sea of numbers, I instead attempted to explain them. This effort proved to be one of the most intellectually-stimulating of my life.

Being able to derive an identity or equation imparts unto one a complete understanding of a topic. Doing so for a topic in number theory exponentially increases the reward of this understanding. This is because topics in number theory influence all other areas of math. Proving that any square number must leave a remainder of 0 or 1 when divided by 4, for example, has broad implications given that there are infinite mathematical functions that relate squares and 4. Thus, if one can understand the reasoning behind a pattern in number theory, this understanding extends to all areas of math, and as a result logic.

**Reflect on your engagement with a community to which you belong. How do you feel you have contributed to this community?**

**Yale students, faculty, and alumni engage issues of local, national, and international importance. Discuss an issue that is significant to you and how your college experience might help you address it. (247)**

As someone who attended a private school and lived in a “good” neighborhood, I was oblivious for much of my life to the educational disparity faced by those just miles away. By the time I entered high school, this facade had for the most part crumbled. Ready to make a difference, I signed up to help tutor struggling kids at a nearby elementary school.

I’m not sure what I expected going there for the first time in the June before freshman year. Each conversation with a student brought new surprises. Juan, 11, revealed that he had trouble getting through picture books. Maria, 9, was unfamiliar with the concept of multiplication. These experiences were probably particularly shocking to me because of how they contrasted with my own education at that age, in which I was in a small class and frequently interacted with the teacher.

Since that day, I have continued to volunteer throughout the school year and summer. However, I realized early on that, as a volunteer, I would not be able to make any sweeping changes to the state of education. With class sizes ballooning, there are simply not enough teachers for effective learning. The development of educational technology appears to have the potential to help mitigate this issue. I hope to learn more about the psychology of learning because knowledge of the subject combined with my abilities in computer science would allow me to create educational tools that may one day have a greater impact.