Barlow Bowling

We're Recruiting!

Compete

Play against nine other teams in the league, and then statewide in the tournament.

Improve

Receive professional advice from USBC certified Coach Tim West.

Have Fun

Don't lose the fun of bowling in competition. Think about bowling birthday parties!

Prerequisites	None! No bowling skill is required.
Location	Meet in the lobby after school. Matches are at Nutmeg Bowl of Fairfield. Check them out at nutmegbowl.com or at 802 Villa Ave, Fairfield, CT 06825.
Dates	Games are on Tuesdays, and practice is on Thursdays. The season begins November 29th and lasts 11 weeks.
Time	Meet directly after school. Matches begin at 3:00 after school.
Price	$6.00 per meet or practice.† Includes bowling balls, shoe rentals, games, and coaching by Coach Tim West.
Contact	Jonathan Lam (jlam55555@gmail.com) or Mr. Tom Smith (tomsmith@er9.org). See our FB group (facebook.com/groups/barlowbowling2017).

† Bring cash please. Price is for league participation. Subject to decrease as we acquire school funding. To see this number go down to $0.00 (free), help recruit bowlers!

SIGN UP!

Barlow

Bowling

facebook.com/groups/barlowbowling2017

JBHS Bowling is an intramural club at Joel Barlow High School for the Connecticut Interscholastic Bowling League (CIBL) at Nutmeg Bowl. Signing below certifies that you understand the following rules and information and wish to be a member of the JBHS Bowling Team of 2017-18:

1. JBHS Bowling takes place at Nutmeg Bowl of Fairfield. Their address is 802 Villa Ave, Fairfield, CT 06825. Information about the bowling center can be found on their website, http://www.nutmegbowl.com, or by calling their phone number, (203) 367-7741.
2. The CIBL season begins on Tuesday, November 28th, and takes place every Tuesday and Thursday for 12 weeks, excluding holidays and snow days.
3. Snow day cancellations are independent of JBHS snow day cancellations. They may be announced on the day of the storm if driving conditions are dangerous. Always check the Facebook group or ask a captain for updates.
4. On Tuesdays, a 10 minute practice will begin at 2:50p.m., and games will begin at 3:00p.m. Late arrivals may mean missing practice time or games.
5. There is no bus for JBHS Bowling. Make sure to communicate with parents or bowlers who can drive **ahead of time** to arrange transportation to and from Nutmeg Bowl.
6. Varsity consists of the five bowlers who have the highest average*. Then bowlers will be sorted into junior varsity teams of five people based on average.
7. Beginning on the fourth match, bowlers must have come to two of the previous three matches to qualify for Varsity.
8. A $6 cash fee will be collected on every practice day (Thursday) for league participation. Game days are free. Failure to pay may prohibit bowler from participating.
9. Bowler statistics will be published online on Nutmeg Bowl's website (http://nutmegbowl.com/LEAGUES) and on the JBHS website (http://barlowbowling.github.io).

Name (print): _____

Signature: _____ Date: _____

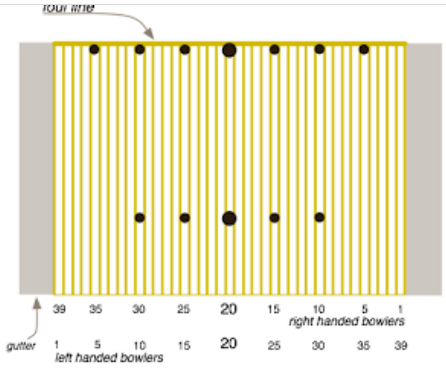
* average determined by weighted mean formula

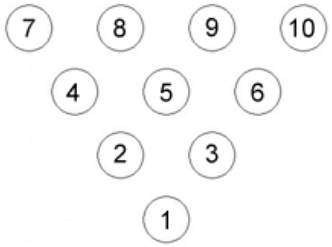
BOWLING TIPS FOR BARLOW BOWLING

See next sheet for useful vocabulary / resources. Read over this list. This list compiled by Jonathan Lam. Please tell me any tips that helped you so that I can add them here!

Level	Skill	Problems Solved	Solution / Tip
	Practice days		Practice days don't have to be high-scoring. If Coach gives you a tip and it means you have to try something new, **try it**! Your performance on practice days doesn't have any effect on your match scores, so use practice days to your advantage.
	Positivity		**ALWAYS STAY POSITIVE!** A positive mentality can be one of the greatest score boosters. Keep in mind that while the sport is competitive, it is also fun.
Beginner	Holding the ball		Hold the ball with the thumb, third, and fourth fingers. (Don't use your pointer finger!)
Beginner	Finding a ball that fits	Ball finger holds are too tight/loose on hands	With the thumb fully inserted into the thumb hole, the second knuckles of your third and fourth fingers should be in the center of their respective holes.
Beginner	Footwork		Take a four-step approach. Right foot: cross over left Left foot: straight step Right foot: straight step Left foot: straight step/slide
Beginner	Where to look to aim		Choose an arrow (15 feet out on the lane) to aim for instead of a specific pin. This will make be much easier to hit.
Beginner	Following through / holding position	Unstable release	Follow through straight toward your target with your swing. Make the *phone call* -- after your swing let your hand continue up next to your face. If this all happens in a fluid motion the motion should be straight.
Beginner	Swing timing		Match up parts of your swing with your steps for a fluid, systematic approach. First step: move ball forward, easing into drop Second step: let ball drop Third step: ball at peak behind you Fourth step: slide, release
Beginner	Elbow tuck		Keep your elbow tucked inwards throughout the whole swing. An outward elbow indicates a non-straight arm and an inconsistent release from the outside of the ball.
Beginner	Stretch before bowling		Stretch your muscles before bowling! Especially make sure to stretch your forearm and shoulder to avoid injury.
Beginner	Don't rush your steps		Take relaxed steps -- don't run up the approach. Being with three small steps, and finish with a long and relaxed slide step.
Beginner	Initial ball push		On the first step, push the ball straight out forward from its starting position. A straight inital push will set the ball moving on a good path towards the pins, and gravity should take care of the rest.
Intermediate	Hitting the pocket	Splits from hitting the pins head-on	For right-handed bowlers, aim to hit between the 1-3 pins, with as much leftward angle as possible by starting on the far right of the lane. For left-handed bowlers, the 1-2 pins and start on the left of the lane. This increases the likelihood of a strike like throwing a hook, but less extreme.
Intermediate	Free ball swing		Never force the ball. Once the swing begins, let gravity do its job and pull the ball straight.
Intermediate	Slide step		Take a long fourth step, sliding on the tip of your foot.
Intermediate	Bending knees	Unstable release	This will keep your center of mass lower and maximize the time the ball is on the lane (and not in the air where it is unstable).
Intermediate	Spare shot aiming		Shift your feet's starting position. For every pin left you want to hit, move 3-4 boards right. Aim for the same arrow you normally shoot for a strike. This pivots your shot around your target arrow by shifting only your starting position but keeping everything else consistent. Adjust as necessary.
Intermediate	Hand behind the ball	Preparing for hook bowling, better rolling and control	Instead of letting the ball hang from your hand throughout the swing, lock your wrist in a bent position (with your thumb perpendicular to your arm) for the majority of your swing. Your thumb should be pointed straight forward.
Intermediate	Rolling ball release	Ball sticking to thumb	Release the ball like a yo-yo: allow your wrist to roll into an "open" position, with your thumb parallel to your arm and perpendicular to the ground. This is especially important if your hand is behind the ball so that the ball rolls off of your hand smoothly.
Advanced	Hook bowling	High aiming, want to get higher strike percentage	**Note: Don't attempt this before you learn to keep your hand behind the ball (see above).** With your hand behind the ball, aim your thumb slightly left (for a right-handed bowler). As you release, the ball will go on a slight left roll, increasing the angle of incidence hitting the pins. For a larger hook, increase roll your release in a diagonal motion rather than a straight motion. Recommended to look up a video online or consult a hook bowler before trying this because it can quickly result in bad technique that puts a lot of stress on hands or doesn't give much hook (i.e., ball spinning like a top).
Advanced	"Breaking" your wrist for hook bowlers	Too much hook on spare shots	**For hook bowlers only.** On spare shots, *don't* put your hand behind the ball. Instead, have your thumb parallel to your arm, perpendicular to the ground, so the ball simply falls off your hand without any spin. (This is un-doing the hook on purpose!)

BOWLING VOCABULARY

Vocabulary	Definition	Image
approach	part of the lane from the back of the ball return to the beginning of the lane; only bowling shoes are allowed on this part to avoid outside dirt to get on it and interfere with sliding	
arrows	indications fifteen feet down the lane that are often used as targets for aiming	
ball return	the machine that collects and lines up the bowling balls for players to reuse again; never stick your hand in the hole of the ball return	
Brooklyn	getting a strike from the left pocket as a right-handed bowler, and vice versa for left-handed bowlers	
bumpers	(you don't get these -- never mind them)	
chop	hitting a pin in a spare but missing pins right next to or behind it	
CIAC	Connecticut Interscholastic Bowling League, a league of Southwestern CT bowling teams; the name of the bowling league we participate in	
clean game	a game with no open frames	
dots	refer to the dots on the approach used to guide a user's initial position; not to be confused with arrows	
frame	a set of one, two, or three throws taken at a time that comprise one box on a bowling scoresheet	
gutter	troughs on both sides of the lane that catch the ball if the lane is missed -- zero points are guarenteed if you get a ball in the gutter	
handicap scoring	pins given to players make competition more fair between different levels of bowling; not applicable to this league (see scratch scoring)	
head pin	pin 1, or the pin in the front of the triangle	
high hit	hitting the pocket at a greater angle or a little left of the pocket (for right-handed bowlers); more likely to leave a split	
hook	spin put on the ball so that it achieves a greater angle upon approaching the pins	
house ball	bowling ball provided by Nutmeg Bowl; generally have plastic surfaces (do not hook well)	

king pin	pin 5, or the pin in the middle of the triangle; known as the "king" pin because it is hardest to knock down, and it can sometimes be left standing when all the pins around it fall because of a lack of power in the shot	
lane	the 60-foot long run of wooden boards on which the bowling ball is thrown; consists of 39 boards	
light hit	hitting the pocket at a lesser angle or a little right of the pocket (for right-handed bowlers); more likely to glance off the triangle and not drive into the pins	
lofting	throwing the ball in an arc instead of letting it drop quickly to the lane; don't do this	
open frame	a frame without a strike or a spare	
perfect game	getting 12 strikes in a row in a single game for a 300 score	
pins	try to hit these; ten 3.5lb objects at the end of the lane, arranged in a triangle	
pocket	the area between the 1-3 pins (right pocket) or 1-2 pins (left pocket) that make a strike most probable; this is where you want your ball to finish	
scratch scoring	playing without handicap scoring; how this league is scored	
spare	when you knock down all remaining pins on the second throw of a frame; this counts as ten points plus your next throw (for a maximum of 20 points)	
split	when your first throw leaves two non-adjacent pins; not considered a split if the head pin is still standing	
split conversion	making a spare on a split	
strike	when you knock down all ten pins on the first throw of a frame; this counts as ten points plus the sum of your next two throws (for a maximum of 30 points)	
throw	a bowling shot	
turkey	three strikes in a row (four in a row is a "four-bagger," five is a "five-bagger," and so on)	

vocab list compiled from:

https://www.ecenglish.com/en/social/blog/miami/2012/09/20/bowling-vocabulary

http://shop.bowlersparadise.com/blog/2014/05/22/bowling-glossary/

Bowling: The Intellectual Sport

There's a video of it happening. The first strike was messy because the seven-pin had to be knocked over by a rolling pin. The second and third strikes that frame were cleaner. There was a cheer, many high-fives and fist-bumps. My first 300 game.

But bowling has its ups and downs. I've been fighting out of a slump in my scores recently. At the beginning of this CIBL league session, my scores dropped down to as low as 120, and my averages as low as 160 -- a big step down from the 212 average I had last year in the league. I lost quite a bit of faith in bowling, which affected my ability as captain. I was frustrated, angry-- naturally, this made my scores decrease. But with the repetitive advice from our coach and the slow regain of my average over the last eight weeks, I'm proud to say that my previous average has returned.

I like to summarize up difficult experiences like this concisely in my journal for future reference. For something like cross country, pure displays of raw strength and athletic talent, it runs along the lines of: "Run until you feel dead, then keep running." But despite the flounder in my bowling, what I noted about the sport from this experience is something much more agreeable: "Bowling makes so much sense."

The beginners might see it as good or bad luck. Hit the pins right on the nose of the triangle, and sometimes you get a strike, sometimes you don't. Most bowlers know that this often leads to splits, and try to increase their strike percentage by hitting the pocket at an angle. Both thoughts are true: there is some natural variation in a person's swing and in the position of the pins and the oil on the lane, and statistics dictates that there is no sure-fire way of guaranteeing a strike on any shot. But physics explains why every shot results in the way it does, and chemistry accounts for the viscosity of the lane oil or the grip of the ball's coverstock. And every change in motion a person makes has a corresponding effect on the outcome of the shot. "Luck" is no more than a facade for minute inconsistencies in the bowler's swing, and usually improves as hook and speed increases.

I never thought I would become an athlete, but now I wholeheartedly embrace being a bowler. I enjoy doing schoolwork and embrace the nerdiness of going to hackathons and math or science competitions. However, following the example of my dad and older sister, I ran cross country in the fall and outdoor track in the spring. The problem with these sports is that there's not enough time to think; it's all just toil and heavy breathing and feeling your heart burst. It's nice as exercise to keep fit, but does little else except strain my body and tire out my mind.

But I believe bowling has something fundamentally different from the emphasis on physical exhaustion and speed at the core of many other sports: the game is all about making everything move smoothly according to physics. Action-reaction. Friction. Maintaining angular momentum. Gravity and constant acceleration. Et cetera. (It only makes sense that four members of our Varsity team take the most difficult mathematics and physics courses offered at our school. We get excited every time bowling balls are used for demonstration in class.)

It just makes sense to move the starting position of the feet left or right so that the ball pivots toward the opposite direction. The footwork to get both feet out of the path of the ball just enough to stay balanced makes sense. As to swing the right foot and left arm out left for stability. To let gravity smoothly accelerate the ball. To avoid getting the hand around the side of the ball. To have a long slide with the knee bent for stability and speed. That no matter how skilled a person is at bowling, they are never perfect, and they will sometimes miss. And of course, that practice (nearly) makes perfect.

The latter point, interestingly, was somewhat of a struggle for me to understand. I thought that my previous high average could keep me afloat, but my bad habits of constantly getting around the side of the ball dragged me under. I was not serious with improving my technique at the beginning of this season and let my scores falter. In the end, it was long, simple, hard work and concentration that did the job. I watched as one of our new bowlers soared into Varsity with no prior experience, because he was extremely enthusiastic and went bowling many times a week. Even my younger sister, who has much less experience than me, outscored me several games because of the seriousness of her every throw. I felt very humbled by this apparent honesty in the sport. In a game where you could have a lucky strike a hundred different ways or an unlucky leave another hundred ways, the sport itself, in the long run, has always been very impartial to luck. As statistics says it should be.

That being said, I've placed both absolutely first and last place in leagues and tournaments, individually and as a team. Even at the bottom, it's never a traumatizing experience, especially because I know that there will always be good days among those bad days in the future.

And watching our high school team stagger and grow, but in high spirits either way, has been by far the most rewarding experience in high school. Becoming team captain has been the most recent chapter in the bowling journey. I manage the Facebook group, actively communicate with the school administration and the league, handle uniforms, recruit members, organize finances, and arrange end-of-year ceremonies. But these are the superficial details, the technicalities to run the team. But to be a captain, and to truly have a team, means to get everyone else on the same mindset about bowling. Bowling is such a great sport because it makes so much *sense*. It’s lovable and honest. The best part is, I think we all believe it.

Math Mentoring: Teaching. Giving. Leading.

The role of Math Mentor is not so simple and ordinary as it might seem.

Although it might sound very similar to simply "helping peers study," Math Mentoring entails textbook leadership. It is not the frantic interaction between classmates before the test next period, nor is it a laid-back activity. Leadership is inspiration. Motivation. At Math Mentoring during Activity, I (along with the other Math Mentors) help lead the students in their path to mathematical prowess by inspiring them through teaching.

Many of the students that come to Math Mentoring are taking Honors Geometry or another freshman math course. Having recently taken the course, it is still fresh in my mind. Additionally, my memory of the class is from a student's perspective—the methods and mnemonics I used to study are very relevant. Together, these two aspects allow us Math Mentors to fill in the gaps that the math instructors may have left behind. Rather than being a classmate—who may not have as much experience as those who have already taken the course—or a teacher—who may view the coursework differently than a student—a Math Mentor has the unique in-between position, a true mentor. Not quite a renowned master nor a fellow apprentice, this position of mentor gives a balance between relatability and experience. This balance is what allows the Math Mentors to not only help study, but also teach.

And that's no simple task, either.

An important facet of leadership is motivation. Whether a student does not understand a topic, or if he or she is apprehensive of a looming test or quiz, they are typically dejected and in low spirits. It is the job of the Math Mentors to solve this: to provide alternative methods of teaching that might help because it offers a different perspective. Because it is not a typical class with a strict agenda, the Math Mentor has the time to work one-on-one with a student until they understand the topic, as well as feel comfortable and confident with it. A mathematics teacher, with whom a similar session might feel more intimidating, might not be able to achieve the same effect. And every student will allow the mentor to grow also as a teacher, improving his or her abilities to help other students and further distinguish Math Mentoring from a basic peer-to-peer study group.

This teaching differentiates Math Mentoring from non-leadership. Math Mentoring can be considered somewhat of a well-established community of students seeking and giving academic aid. There is a sense of formality in the club, even in the name (i.e., "math mentoring" as opposed to something along the lines of "math commons," "math study," or "math buddies") that differentiates it from the characteristic Chemistry cramming crew of classmates in the Learning Commons. That is considerably more chaotic and less effective than a more organized group of Math Mentors.

Another point to consider is that Math Mentoring offers little benefit to the mentor; there is no pay or similar reward, except for the satisfaction of helping others. It is on the mentor's own initiative to remember the math from freshman year and give their time to help other students, many of whom, being in different grades, are strangers. Math Mentoring

happens both during 30-minute break on Tuesdays and Thursdays as well as X-Periods (Activity) on day-2s, which means free, non-academic time for most students. It is one of the few true academic activities in the Activity period, besides Peer Mentoring and Quiet Study—and these two activities have the same pitfalls that Math Mentoring avoids, namely the use of peer-to-peer (vs. mentor-to-student) teaching and a less established and organized structure, respectively. In the morning, it is presumably the only regularly-occurring academic session as well. I have been going to all of the Activity sessions of Math Mentoring (unless a different activity such as the NHS meeting has a higher priority) and visiting the morning sessions with increasing frequency. To show up regularly, as other Math Mentors and myself have done, to the meetings is a show of reliability and discipline, which demonstrate leadership.

There is also a dynamic mood in the Math Mentoring club. Mr. Barna, the supervisor of the club, decided that the studying of other schoolwork would be allowed, if quietly practiced and non-disruptive to the regular mentoring of mathematics. Similarly, students occasionally require assistance in mathematics in higher grades (i.e., sophomores and juniors). The Math Mentors work together to help everyone, freshman- and math-related or not. If there is a free mentor who understands the subject that is required, then he or she can give assistance just as readily as if math aid was requested. I've answered multiple requests for help for science or English assignments, and I've also delegated other mentors to help when I do not know the content. The ability to respond to different situations is another side to leadership, and is thus fulfilled by the Math Mentors.

The teaching part of Math Mentoring is the central goal of the club, and the Math Mentors are a suitable match for its purpose. But a leader is no leader if he or she does not have the capability to manage the club as well.

During Activity periods, Math Mentoring consists of upwards of forty students and only a few mentors. Mr. Barna can only do so much to organize the crowd. Because of the free nature of the club—students are allowed to do most anything so long as it is academic and productive—the room has the tendency to become loud, creating an unideal study environment. While Mr. Barna does most of the quieting down, the Mentors help when it becomes too uncontrollable or if he leaves the room. Similarly, other simple regulatory activities have to be completed around the room, attendance being the one of them. I was often delegated to facilitate the taking of attendance by creating, passing around, and checking the attendance sheet last year and sometimes this year as well. Being a regular administrative duty of any activity during X-Period, it is important to complete. I also regularly told the students to stop playing video games or to stop straying off task if they were doing so. This includes other Math Mentors, who, bored as they might be, still have the duty to actively participate in the club and answer help right away when help is needed.

Being a Math Mentor, I have answered calls to help from the school community: help for class, for inspiration, for guidance and leadership. I have directly worked with many students and led them towards academic excellence, and I have helped maintain the group that allows this motivating relationship to occur.

Keeping Barlow Bowling Alive

I believe I have demonstrated my leadership at Joel Barlow chiefly through captaining its CIBL Bowling Team. As one of its captains, I have worked hard to take all the steps necessary to help the team continue for another year and run smoothly, namely communicating with important contacts by the necessary deadlines and recruiting enough members to keep the team functional. I believe that leading the Barlow Bowling team has benefited the Barlow community by developing teamwork and coordination in a competitive but fun manner.

From my experience as being co-captain of the team last year (along with Noah Sobel), I have learned that communication, with the team and with the people necessary to make the team run, trumps any skill necessary to leadership. A leader who knows who to talk to to get his team running is the best leader. The combination of actively communicating with appropriate connections and the ability to make deadlines demonstrates a responsible leader. While I believe that there is no way to quantify leadership, I have described several major contributions I have made to the bowling team last year and what communications were necessary.

1. The first necessary communication was gathering all of the logistical data about the bowling league. Early in November I contacted Mr. Tom Smith, our club advisor, and our direct link to the CIBL bowling program at our local bowling center, Nutmeg Bowl. He got us the information about the league (which began the Tuesday after Thanksgiving, met Tuesdays and Thursdays for eleven weeks, was six dollars a meet per person per week, etc.) that I could then dispense to fellow teammates.
2. After receiving information about the league, it was time to recruit members! Barlow Bowling has historically not been very well known at the school. It's not uncommon that students respond, "We have a bowling team?" when they are asked about their interest in the bowling league, and our team comprised only five people for the previous two years, barely enough to participate in the league. Last year we only had two returning members, so we needed to recruit at least three more bowlers. I was in charge of creating flyers, of which I created several designs with the information given to us by Mr. Smith. Unfortunately, I only began this in November of last year, a mistake I will be sure not to repeat this year. The scheduling of meeting with administration and having the poster reviewed and corrected took two weeks, so that I was not able to get the final draft signed by Dr. Pin to be distributed. Nonetheless, I actively recruited members, mostly within my classes. In the end, we had fifteen members signed up for the team, a great improvement over the year before and enough to fuel a JV team as well as Varsity.
3. In the days prior to the start of the league, Mr. Smith and I also took the opportunity to meet with Mrs. Bender and Mrs. McTague to negotiate terms of funding from the school, which the bowling team had never previously received. We learned that the CIAC considered bowling an intramural sport, and therefore we could only receive money from the more meager intramural sports fund. While we couldn't get funding for bus transportation, we managed to work out a deal that would convenience us by paying for our six dollar weekly game fee. If we hadn't asked, bowling would be less accessible or at least less appealing for future recruits.
4. In the meantime, we also asked that Barlow Bowling be considered a school club, which the administrators did for us. This would give us a spot on the Barlow activity period sheet and in the Activity Fair at the beginning of every school year, both of which would improve awareness of the team amongst Barlow students.

5. While administration gave us the funding to pay match day fees, there was still the question of transportation. Buses were far too expensive, unless we began a booster club. We considered Uber, but that would also exact extra tolls. We ended up working out carpooling as we had done previous years by making sure everyone who was going to a match had a ride from the designated driver. In the end, we mainly coordinated transportation between Noah's parents and my own to drive us on their time off of work, since very few of our teammates could drive themselves.
6. By the time we began the season, we were without our coach. A gentle reminder to our coach— a local resident and the parent of a Barlow alum, Coach Tim West— was all it took to arrange his coaching for our team. He added value to our team instantly, teaching the fundamental skills that I had tried to fill in his absence in the first two weeks.
7. The final hurdle in setting up the bowling team was team apparel. We had ordered uniforms two years prior, with a design created by the previous captain. The problem was that my communication with him was limited and late. By the time that I had finally acquired the details of his earlier order and begun taking uniform orders late in December, it was mid-season. After requesting proofs of the uniforms multiple times before getting it right, it took until mid-February— almost the end-of-season tournament date— before the uniforms arrived. This procrastination and lack of quick, easy communication inconvenienced the team, but we still got uniforms to everyone that wanted one.
8. As with any team, we were also in need of day-to-day communication. We used a Facebook group and an SMS group chat to meet this end. Snow day league cancellations, illnesses, carpooling volunteers, and other events were reported on Facebook or the group chat to the team. Because of the popularity of text messaging and social media, this made communication with the team members very simple. It allowed quick decisions such as canceling the week's game and practice days during semester one finals week because of mounting stress, or changing up the driver due to some unforeseen work schedule change.
9. A little bonus I wanted to contribute to the team was a tool to track and automatically calculate the next week's varsity positions based on scores from previous weeks. I created a website (barlowbowling.github.io) that allowed bowlers to easily view their individual progress, as well as the team's overall progression. It included features such as score prediction and determining who improved the quickest. I hope this website can be my legacy to the team, a simple tool to make storing, viewing and analyzing the bowlers' scores convenient.
10. Cheering the team on! Bowling can get frustrating outside of a birthday-party environment, and Noah and I never underestimated the power of positive encouragement and staying optimistic.

It took so many steps to set a clear foundation for Barlow Bowling this year. It is a process of meeting with the right people at the right time to promote a certain cause. I believe the cause of bowling at Barlow is to encourage the active but social activity of bowling, which enhances fine motor skill, discipline, coordination, and builds teamwork — an interesting sport for those with the interest or aptitude for it. I tried to make that experience as memorable as possible last year. While I did procrastinate occasionally (i.e., with flyers and uniforms), I tried my best to vitalize the bowling team that had been losing steam in the previous two years. I believe that my experience in managing Barlow Bowling fulfills the leadership component of, and makes me a viable candidate for, becoming a National Honor Society member.

An Impromptu Preacher

Our bowling team was dying. In my freshman year, we had five members, the smallest number necessary to run a team. Sophomore year yielded no improvement. In my junior year, three seniors (including the previous captain) left the team, leaving me captain of only one other person.

I could have called the team off. If no action had been taken, this inevitably would have occurred. Even our coach had believed that, due to our lack of enthusiasm the previous year, our team would not exist that year and thus did not bother to appear at our games and practices until I assured him that we did have a team. I could also have recruited the bare minimum of five bowlers again to meagerly subsist for another year.

But I love bowling, and I set out immediately to make Barlow Bowling known. Word of mouth was the first approach, and I managed to recruit a fair number of people from my classes. The next approach was creating flyers. Alas, the flyer effort was too little and too late (for I had no prior experience with creating or distributing them). In the meantime, I worked with administration to gain improved recognition and funding for the team, and I contacted our previous captain to get the design for the team shirts. By these means, our team grew from two to fifteen people after years of no improvement. Not bad.

This year, I'm doing the same, albeit with a more organized and timely effort with flyers. I believe that I can expect an increase of about five to ten people this year.

Given an adequate cause— such as bowling, which is not only fun but also trains concentration and various fine-motor skills— I was able to mobilize over a dozen people and spread the word to many dozens more in the span of only about two weeks.

While I spend the majority of my time focused on academics and scholastic extracurriculars, it doesn't mean that this anecdote doesn't apply. I love to spur on my peers. It's from this motivation that I received a "motivational" character trait award and our school's Spotlight Award for leadership, service, and character.

Sometimes, the motive is a shared benefit, such as a high grade in a group project. Often, however, I simply enjoy imparting knowledge on others, and vice versa. All four years at my high school, I've volunteered as a mentor as part of the Math Mentoring program for the simple reason that I love all things mathematical, and I believe that everyone should feel the same joy of math. Being a student in high academic standing, it's also not rare that other students come to me for help in other subjects such as chemistry or calculus and that I often spend a good part of my free period to help others study or solve difficult homework questions. Recently I've even begun the habit of hosting video calls as a mode for late-night study groups for more difficult tests.

When it comes to bowling, programming, or Rubik's cube speedsolving, for all in which I consider myself reasonably experienced relative to our school population, I often get overzealous in my attempts to indoctrinate others, sharing as much as I know. My efforts to flood my younger sister with mathematical awe has been thoroughly shunned, for example. But I believe that information is a benign medium with potential only to gain wisdom, and not to harm.

My urge to preach knowledge presents a sharp contrast to the quieter me that appears when learning. When possible, I sit in the front of classrooms, never speak back to teachers for the sake of argument, and always do my homework. Arguably I'm a teacher's pet, but I believe that means simply learning in the most effective way.

I was born and raised by grandparents with very strong Chinese values of hardworkingness and discipline, which manifest themselves as an ostensible taciturnity as I do schoolwork. But I have lived my entire life in a society that is formed primarily by Caucasian Americans, whose culture places a larger emphasis on television, sports, freedom, social settings, and creativity. I impute my ability to work so diligently on the task at hand to the discipline of my grandparents, but often the tasks (such as bowling, mathematics, writing essays, etc.) are activities founded on the creative basis of the American culture.

I hope to contribute to the UConn community by increasing its diversity of thought and by inspiring others. From two different upbringings, I have grown up to value education and the stubborn toil necessary to learn as much as possible, as well as to find gratification in aiding others.

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Evolution: I did something like this for my Sophomore Speakout, a speech written for the class. It didn't go too well. But I'll try it again, with these two scholarship essays. I need to finish both by Monday, which means a good, working draft should be finished by tonight. Godspeed!

Draft 1: History (time: lots of procrastination, but mostly in two hours)

Hello, World!

It all began with two books, just after I had fell out of my car craze. I don't remember the books' titles. I just know that they were less than five dollars, over a decade old, and probably at least 500 pages each. One was about HTML and the other about Java.

As a twelve year-old, this was all very foreign and exciting to me. Java sounded like a more friendly name, but I didn't understand any of the language. So I looked at the HTML one, which seemed more legible. My dad showed me how to use the language on my Windows Vista laptop by typing it into Notepad and running it in Google Chrome. It was fascinating and very quick. I stuck with HTML in 2013 for the last year before HTML5 became the working standard. Around that time, I lightly fiddled around with Java and C++, with the intention of making working applets for my websites, but I never figured out how to use applets until much later, when applets were actually disabled as a potential security hole, in favor of JavaScript.

I made quite a few websites. I remember the earliest ones mostly played around with fonts and colors, and were especially messy because I didn't know about CSS or JavaScript at the time. (Once I had used a few hundred spaces to try to center text, before learning that this did not work on differently-sized monitors and that there was the HTML `align` attribute; only a few months later did I realize that the align attribute was deprecated in favor of CSS's text-align property.) But perhaps the first presentable application was that for my PLTW (Project Lead the Way) class, as a final presentation in eighth grade, when I made a website [1]. While I probably bored the class with my technical description of the site's workings, it was the first time I had ever made something that felt presentable enough to show to people outside other than my siblings. And the most amazing part was that I had complete control: it was all made from scratch.

While there was somewhat of a hiatus in my programming during my freshman year of high school to keep up with the daily demands of school and sports, I resumed again in the summer. My mom persuaded me to take the Fundamentals of C programming course at Columbia University's Program for High School Students, which has been my only formal programming class. The course, along with my current AP Computer Science Principles class, have taught me most of what I know about how computers work, fundamentally and at the memory level.

In sophomore year, I worked with some of our school's robotic's team programmers to create the Programming Club at our school. While it only lasted that year due to scheduling issues, it was the first time I worked together with my peers on programming, and, following the example of my peers, made JavaScript the language of choice for my studies.

After sophomore year, my programming experience has roughly been broken up into two, distinct categories: large web projects, either personal or by commission; and competitions. My friend and I created a website called RingTune [2] at our first hackathon, LIHacks 2016, winning the Most Entrepreneurial Award. At the MoMath Hackathon in 2017, I went with two friends and created five educational math projects, all of which won prizes. And at StuyHacks 2017, I teamed up with two students from NYC to create the Fruit Sensei game [4] that won Best Game. Most recently, I've spent time preparing for the Lockheed Martin Code Quest in April, practicing logical problems with five of my friends.

The second category includes websites. Lots and lots of them. A major project the summer of 2015 was a website proposal for our local bowling center [5]. While the bowling center did not respond to my website proposal, it did prompt them to redo their decade-old website. More recently, I've worked on a web-app for our local Safe Rides program [6]. And I've created a personal website [7] and blog [8], the latter of which may be my most advanced project to date.

[1]: http://programath.co.nf
[2]: http://jonathanlam.tech/ringtune-website
[3]: https://github.com/Poobaloofa/howitfeelstochew5gum
[4]: http://fruitsensei.tech
[5]: http://jonathanlam.tech/nutmegbowl
[6]: https://www.saferideser9.org
[7]: http://jonathanlam.tech
[8]: http://eis.jonathanlam.tech

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Draft 2: More history, more storytelling (time:)

My computer science career has been more of a journey than anything else. I've only taken one programming class and one computer science class, but the heart of my experience lies in the experiments, the *science* of computer science. I thought it would be most appropriate to relate the experience in stories of specific applications I've written.

I remember the first time I showed off a program I had written to others. It was my final project in PLTW class in eighth grade. I had written a basic calculator, equation grapher, and literal equation solver, and I discussed in layman's terms the code behind it. HTML, CSS, JavaScript. While I might have bored my classmates, it was perhaps the first time I realized my programming had the potential to presentably solve real-world problems.

I remember having some free time in my programming class and attempting to solve some questions from Project Euler. I was stuck on the tenth problem, which asked for the sum of the primes under two million. My algorithm made sense to me. Frustrated, I left the program running for four hours, after which it provided me the correct answer. I looked at the solutions in the forum and discovered that my trial division algorithm was in fact very inefficient. I updated my algorithm and was rewarded with the correct answer within a few seconds. Then, for fun, I condensed it into a cryptic 100 characters of JavaScript: `for(j=2,s=0;j<2e6;s+=(()=>{for(i=2;i*i<=j;)if(!(j%i++))return 0;return 1})()?j:0,j++);console.log(s)`. Since then, I've had a lot more fun with Project Euler and a similar site, Code Wars.

I remember beginning to write my first blog. I had become very frustrated in my English class because I could not keep up in class discussions. My teacher told me to practice, and I decided I needed a platform. I thought it would be a fun idea to use blog posts because it seemed an easy way to order my work chronologically and share my writing for feedback. Now I'm almost 200 blog posts in after two years, and my language is forever changed for the better.

I remember our bowling center's old website. The basic format had not been updated since 1999. Everyone agreed it was hideous. I wrote a website that I believe was much more presentable and shared the link with the contact email on the old website. Interestingly, they did not respond to my email, but replaced their website that same summer. I don't know if I prompted the change, or if it was a coincidence that they decided to update their website the same year.

I remember going to my first hackathon in Long Island with one of my friends. We teamed up with two Long Islanders to create a website called RingTune that generated melodic tunes using simple machine learning with Markov chains, winning the Most Entrepreneurial Award and drones. And I remember the second hackathon, this time with two of my friends, when we worked on five educational, mathematical displays at the Museum of Mathematics and won prizes in all three categories. And I remember the most recent hackathon at StuyHacks, in which I paired up with New Yorkers to create the Best Game, Fruit Sensei. The latter was especially interesting in that we harnessed the processing and sensor capabilities of an average smartphone as a sensitive controller, which could be a cheap replacement to expensive training equipment.

I remember that on the night of junior prom, I was at home. Programming. And now I jest that I had much more excitement creating my Agar.io videogame imitation than my classmates awkwardly dancing at prom. I also didn't have $150 nor a date, so this made programming even more appealing. My classmates all enjoyed the videogame.

I remember a weekend when I had a high fever, it was rainy, and I had only some math homework to complete. Perfect conditions for programming. My friend had interested me in the art of fractals, so I decided to make some of my own. I went Wikipedia-surfing and discovered the formulas for the Mendelbrot and Julia Sets, as well as a very interesting method of drawing the Koch snowflake using the Thue-Morse Series, a series of boolean values. As expected, many of them were exceedingly fascinating.

I remember being messaged by our class president just after summer break began about an opportunity to help out the class council's new Safe Rides program. I was ecstatic, and worked furiously over the summer to write a program that would keep track of the weekly volunteers, organize a system for easily requesting safe rides and volunteering to fulfill them, and log all of the timestamps of locations to keep people safe. While the Safe Rides program is not yet fully functional and the web-app is still in beta, I'm still very excited about the potential the app has to save lives.

And now, I'm training with some of my classmates for the Lockheed Martin Code Quest. Unlike a regular hackathon, the Code Quest only involves solving math problems in a short time, with only one shared computer per team.

[CONCLUSION]

Why I have chosen a Career in the Computer Science Field

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Hello, World!
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My journey into the world of computer science all began with two books, just after I fell out of my obsession with cars. I only remember that one was about HTML and the other was about Java, and that I was hooked instantly. Here are some other highlights of that journey.

I remember the first time I presented a program of mine in PLTW class. I wrote a website with a simple calculator, equation grapher, and equation solver, and I discussed the logic behind it. While I might have bored my classmates, it was the first time I realized my programming had the potential to solve real-world problems.

I remember attempting to solve Project Euler questions in my free time. I was stuck on the tenth problem, which asked for the sum of the primes under two million. Frustrated with my slow algorithm, I left the program running for four hours to produce the (correct) result. I looked at the solutions in the forum and discovered multiple inefficient steps in my algorithm. I updated it and was rewarded with the correct answer within a few seconds. Then, for fun, I condensed it into a cryptic 100 characters of JavaScript, even shorter than its 102-character question:

```
for(j=2,s=0;j<2e6;s+=(()=>{for(i=2;i*i<=j;)if(!(j%i++))return 0;return 1})()?j:0,j++);console.log(s)
```

I remember beginning to write my first blog. I became frustrated in my English class because I could not quickly synthesize arguments in class discussions. My teacher told me to practice, and I thought a blog would be an appropriate way to organize writing chronologically and to share my writing for feedback. Now, two years and almost 200 blog posts later, my language is forever changed for the better.

I remember looking at our bowling center's 1999-styled website in 2015. Everyone agreed it was outdated. I wrote a more modern version, and shared the link with the alley's webmaster. They did not respond to my email, but replaced their website that same summer. I don't know if I prompted the change, or if it was a coincidence that they decided to update their website the same year.

I remember going with a friend to LIHacks and creating RingTune, which generated melodic tunes using Markov chains, winning the Most Entrepreneurial Award. I remember working on educational, mathematical displays at the MoMath hackathon. And I remember creating the Best Game of StuyHacks, Fruit Sensei. We harnessed the capabilities of an average smartphone as a cheap replacement to expensive gaming or training equipment.

I remember programming on the night of junior prom. Now I jest that I had a cheaper, more engaging experience creating my Agar.io videogame imitation than my classmates had awkwardly dancing at prom. My classmates all enjoyed the game.

I remember having a high fever on a rainy weekend. My friend had interested me in the art of fractals, so I decided to make some. I went Wikipedia-surfing and discovered the Mendelbrot and Julia Set formulas, as well as the Thue-Morse Series for generating the Koch curve. The fractals were exceedingly mesmerizing.

I remember being asked by our class president to write an app for the new Safe Rides service. I was ecstatic, and worked over the summer to write a program that would keep track of volunteers, create a system to request and fulfill rides, and log the timestamps. While the service is still not fully functional and my web-app is still in beta, I'm extremely excited about the potential the app has to save lives.

Since I was little, I've wondered how people built *things*— cars, architecture, software. I wondered how people moved on from whimsical, school-level projects to the level of professionalism required for the real world. But from this journey, I realize that I too can pragmatically solve the problems and needs of myself and the community around me with software. I've made applications to generate music, to convenience Safe Rides, to help my own writing. And with the future of advanced machine learning and computing power, I want to be a part of the technology solutions that come next.

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Word Count: 699 words (excluding headers, title, and word count text)