BEHIND THE CODE

Solving Problems with Robots

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By 3/4-218 & 3-225 at P.S. 197 John B. Russwurm
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Behind the Book
New York
Behind the Book's mission is to develop engaged readers and writers in underserved NYC public schools by designing and delivering programs that are multi-disciplinary, culturally responsive, and promote deeper connections to books and their authors.

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Class 3/4–218 “The Good Thinkers” would like to thank our families and school administrators for devoting their time in supporting us throughout this project. We would like to thank our teachers Mrs. Rambaran, Mrs. Dennis, Ms. Jennings, Mr. Losey, and Mr. Noble, for empowering us to become better students. We are excited about our greatness and would like to thank everyone that believed in us and allowed us to show our intelligent minds at work!

3–225 would like to dedicate this book to our families & friends. Thank you to our teacher Ms. Jones and teachers assistant Ms. Latrice for supporting us throughout this journey and helping us to become better readers and writers. Also, the Behind the Book staff for all the wonderful experiences we shared while learning about coding and building robots, such as receiving Rox's Secret Code and meeting the authors. Also thank you for taking us to RoboFun Facilities to build robots. We especially thank you for supporting us in creating this book. Thank you, Principal Spann for bringing this wonderful opportunity to our school. We really appreciate everyone that was involved in this amazing experiment. Thank You, Thank You, Thank You.
Robots are taking over Harlem, but don’t worry - they’re here to help. Classes 3/4-218 and 3-225 explored computer coding and designed their own robots after reading *Rox’s Secret Code* by Mara Lecocq and Nathan Archambault. In the first workshop students guided Denise in making a peanut butter and jelly sandwich - not as easy as it sounds. They quickly learned from the mess they made that the key to coding is providing detailed, sequenced instructions. Using the coding app that came along with the book, students designed bots that could move and pick up objects.

During the author workshop students decided the problem they wanted their robots to solve. Mara and Nathan then guided them in identifying and sequencing the robot’s functions and creating it’s design. The class took a field trip to Robofun, a STEAM learning lab, where they built and programmed Lego robots to spin tops.

Back in the classroom, Behind the Book teaching artist Barbara Coccioletti guided the students in designing 3D robot collages using materials including aluminum foil, bubble wrap, buttons, and pipe cleaners. Next, Behind the Book writing coaches worked with the class to write descriptive essays about the look, function, and coded commands of their problem-solving robots.

Immersed in the world of coding and inspired by *Rox’s Secret Code*, the students designed the artificial intelligence of their dreams. We’re excited to share their amazing work with you!
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Mr. Cats is my robot name.

He helps me with my homework. Mr. Cats cooks for me.

Mr. Cats can solve subtraction problems. I am not good at regrouping. How to regroup and get the right answer. He does not fill me just helps me.

I am better at regrouping thanks to Mr. Cats. My mom pinch in the code to help me with my homework and Mr. Cats does what ever I need. Mr. Cats to do I to my mom. Pinch in the code for it! Mr. Cats runs with me when I want to play. Mr. Cats is a good friend to have he cooks and help me with my homework. Mr. Cats helps out my mom and me. My mom does not have to work me to much be cause. Mr. Cats helps me a lot.
Robot Helper
by Jaylen

My Robot Helper is a problem solver. I do not like to do homework, but Robot Helper does. Robot Helper helps me to do my homework.

I coded my Robot Helper to help with my homework and write with a pencil. My Robot will walk over to the table with my book and start doing my homework. Robot Helper can write, do all of my writing pieces he does. I know I am supposed to do, but he does because he is a better writer than me.

Robot Helper is silver and blue. He is chunky and when he walks he sounds like a horse trotting and he is 3 feet tall. Robot Helper is the best because I finish my homework much faster and he is good at what he does. I punch the codes in and away he goes now I have time to play my games.
My Robot
by Jerome

My robot's name is Rob Sonic.

My robot's color is blue.
The problem my robot will help me solve is doing my homework when I come home from school. I want to relax because I'm sleepy. The function of my robot is a homework master and a cooking pro. My robot will fix my problem by collecting my bookbag, emptying it, and by getting mom's recipes. The functions of my robot will be unpacking, by backpack do my homework, clean my laundry, play games, and wake me up in the morning for school. The sounds and shapes of my robot is square and he speaks loud and rumbling. The code to my robot is 1234.

I love my Robot!
Mr. Cats
by Joshua

The problem my robot will solve is to remind me to make toys with pipe cleaners. My robot will fix my problem by getting all the materials and help me make toys. The functions of my robot is to make and clean up after I finish making the toys. My robot is gray and silver. It sounds like a bam bam bam when we are at work.
My Robot
by Kingston

My Robot can fly around in circles. He can run into a Minecraft Xbox and television. The color of my Robot is blue and shaped like a fox.
The problem with my Robot is when he breaks down and cannot walk. My Robot will fix the problem. He will use a map to help him.
My robot 9000 is the greatest.
He is a robot with a rectangle shape and his color is silver. Robot 9000 can cook. The best thing about it is he cooks what I like. The food is delicious.

I have to push in different codes for Robot 9000 to know what I want. Robot 9000 takes orders through codes. If the codes are not put in Robot 9000, will not move or do anything. The codes activate Robot 9000 to do different things.
Pizza with the Special Sauce.
It is delicious. Once the pizza is ready, Robot 9000 says hello. That’s when I know the Pizza is ready.
Hello from Robot 9000 is music to my ears because I am always ready to eat some good pizza.

My robot is designed just for me. Pizza is one of my favorite foods. Robot 9000 prepares the food just for me. I feel special because I have my robot cook me the best pizza ever. I don’t have to order it in a store; it is made in my house. I love my Robot and the delicious pizza with the Special Sauce.
My Robot
by Maylin

My robot will help me with reading and writing homework.

My robot will fix my problem by reading my homework and writing my homework for me.

My robot will get my book, find the page, and read the directions and story to me.

My robot will fix my problem by checking how well I am reading.
Robot Big Brother is my favorite robot. Big brother is a great help to my mom and me. My robot big brother makes sure I am clean. Robot big brother gives me a bubble bath. He scrubs my body and makes sure I am clean. He also helps me run a bath. My robot knows how to make the best bubble baths. My robot has just the right amount of bubbles in my bath. He cleans my body right.

Robot big brother is programmed to walk, talk, run, and wash me up.

He really treats me good. Robot big brother is the best big brother a guy can have. I love robot big brother. He is square like a square and he talks like a machine. There are different codes for my robot when you select a code it does different things.
Hi, I’m going to tell you about Steve, my robot. I created Steve to complete my homework. Steve the Robot has a neon gold body and makes sounds like a transformer. His body is square but when he transforms he looks like a human. When I’m struggling with my homework I code 360 and Steve comes to my rescue. He says, “How can I help you, Aden?” I insert my homework sheet in his stomach. Then magic happens. Lights begin to flash then beeping noises and suddenly my homework comes back corrected and complete.
The Best Robot Cooker
by Adrian

Hi, I'm Adrian. I'm in third grade, and I always have a problem with cooking. Can you cook? I hate this problem because I'm always hungry.

To solve this, I created Marshmello, my cooking robot. His body is silver, his arms are rainbow, his legs are orange, his head is silver also, and he has white it's for his eyes. Marshmello cooks for me.

Now my mom can come home from work and not worry about cooking. Marshmello scanned many cookbooks, now he knows how to make everything I like.
The Helpful Robot

by Aicha

Hey are you too lazy to do your homework? Well I’m lazy too, that’s why I made a robot. His name is Koy Bob. He helps people who struggle with their homework. He helps kids with their math, writing, and more. Now nobody has to struggle with homework. After school I took out my homework. I completed the first page but the next pages were really confusing. So of course I asked Koy if he can help. But then I forgot the dishes. I didn’t want to get in trouble by my mom so I reprogrammed him. Now he does my homework and dishes. All I do is key in code 09 and he knows I need help with my homework. When I need help with the dishes I key code 08 and Koy Bob comes to my rescue. I love my robot.
The Robot
by Andrikson

Hey my name is Andrikson. I have a robot named Richy Steve who will make me rich one day. How you ask? Well because he is a money and gold dispensing machine. When I key a code he knows what to do. When I key in code 347 Richy Steve knows to spit out money. He waits for me to say how much money I need before he spits it out of his mouth. To get gold I just code 666 and Richy Steve will spit out one bar of gold for me.
Hi, I’m Asma and I have a beautiful robot named Bunny. Bunny is a very helpful robot and friendly too. For example, if I make slime and it’s a bad batch, Bunny comes in and she is going to put the bad batch of slime into her stomach and an improved batch comes out of her mouth. Bunny also helps me with my homework. If I can’t figure out a Math problem, Bunny will solve the problem before I can count to five. When we go to the park, Bunny always makes friends. My robot Bunny has a round head and pink eyes. Bunny has ruffles on hands and she has silver legs, and that is it!

The END.
Hi my name is Ehab I’m not the best swimmer so I created a swim bot named Jay. Jay has many features that make it easy to learn how to swim. I know other kids want to learn how to swim and Jay is gonna give them swimming lessons.

One of Jay’s features that make him special is that he inflates and deflates by himself. Once Jay is in the pool he inflates himself to the right size for each person. This way he can work with people of all sizes.

Another one of Jay’s features is that he teaches you how to swim. He can teach many styles of swimming. Also he teaches at many different levels from beginner to olympic. So because of my robot I’m gonna be a good swimmer perhaps I’m gonna be the best swimmer in the world.
Lil Choppa the Robot Vet
by Elijah

Has he ever had a sick pet and couldn’t take it to the vet? Well, sad to say. That’s why we invented a robot called Lil Choppa. Lil Choppa is a robot vet that negates the need for sick animals. Lil Choppa has a computer chip inside of him that helps him locate sick or hurt animals near by. When I key in code 3691, Lil Choppa will show on his built-in screen the location of the hurt or sick animal. If it’s too dangerous, Lil Choppa’s eyes will turn red and say DANGER DO NOT CARRY! So I will stay home and key code 3692 to turn his head camera so I can monitor him. When I key in code 3693, Lil Choppa will scan the animal to see if he needs the hospital or Lil Choppa can help him on the spot. When the animal is safe I will key code 3694 for Lil Choppa to come home.
Hi my name is Evan and I want to be a chef when I grow up and I am going to tell you the programming of my robot Benjamin. The problem my robot is going to solve is if my restaurant was about to close and I had too many orders to fill, I would not have enough time to cook all of the orders so my robot Benjamin cooked really fast and when he is not busy he can help me cook. The reason why I get a lot of ingredients is that my robot has a mini farm inside his body. The color of my robot is silver, green, pink and blue. The basic shape of my robot is a cylinder and he has two arms but one thing I need to say is that if he gets mad he gets rabies and goes wild. In conclusion he is a helpful robot unless you get him mad. The code to program him is cool; robot detects orders. 002 robot prepares and make ingredients. 003 robot cooks ingredients. 004 robot decorates and serve.
The Adventure of Chef Bob and Homey

by Ian

Are you too lazy to do homework or cook? Well I have a robot named Homey and he helps me with my homework and I have a robot named Chef Bob and he will do my cooking.

One day in my house I wanted to cook but I needed help so I keyed in code C1 for Chef Bob. He came to cook my favorite meal. Code C2 tells Chef Bob to prepare pancakes, eggs, grits, and bacon. Yummy, yummy. While Chef Bob was cooking I had to finish my homework but I needed help so I keyed code H1 to get homework help from Homey. He helps me by telling me what I need to do. Since I’ve created 2 robots life has been easier for me.
Hi! My name is Iris and sometimes I have problems with my homework. So I made a robot to help me. The robot name is Robotrice. She has a circle head, a square body, two legs, two arms, a big screen and a triangle hat. I programmed her to be able to read my math problems, calculate it and then the answer pops up on the screen on his stomach. Robotrice has two openings. One is under the screen on his stomach and one is on its head. When I have English I write my work then I put it in the opening under the screen. She corrects it in 10 seconds and it comes out the top opening, correctly. My robot is the best!
Hey I’m Kahlil. Is your family low on money? Well me too, that’s why I made a robot named Jack, he will dispense money for me. It will solve all my money problems. His colors are red, blue, and gray. My code for him is open tummy and dispense money. Then he will dispense $100 dollar bills. Next I will dig in his tummy and I bring out $100 from his tummy. Now I can give the $100 to my grandmother.
Hi! My Name is Kali and my Mom is always at a over night job. I'm used to it but I still get worried when she stays at someones creepy house. I also have the worst chores out of my sisters. What is it you ask? Well its cat duty and its the worst job ever! For my sisters get the best jobs! I have to... take the three cats to walk in the carrier, scoop the cat litter, and after that I do my homework. I need help! So I made a robot and it looks like a cat. She has pointy ears, a little pink nose and whiskers. Her body is a long rectangle, small legs and circle feet. Her name is Caterlena. She can do all my chores so that I can play with my sisters. If I key in code 357 Caterlena knows to feed the cats. When I key in code 355 Caterlena knows to change the cat litter. Code 354 tells us both to brush the cats hair. I love Caterlena she lets me do my homework and have fun! The end.
Roxanne the Robot
by Leah

Do you have a dog but you don’t have time to walk them? Well your in luck. I have a robot and her name is Roxanne. She walks all types of dogs no matter if they’re big or small. You might be wondering how does Roxanne know when a dog needs to be walked? Well I would pull out my phone and look at my website when someone needs help they can call 888-999-3889. Once someone calls Roxanne my robot will be faster than you can say the alphabet. Once we’re at the house I will push a button and then a leash will pop out Roxanne’s left hand and she will strap the leash on the dog’s collar. My robot can walk 10 or more dogs. Let me tell you the functions of my robot. First press: put leash on dog. 2: Walk dog. 3: Give dog to owner. 4: Get paid by owner.
Hey, my name is Marquise. Can I ask you something? Do you have trouble cooking? Me too! That’s why I created Yum Yum. Yum Yum is my robot. He cooks for me and my family when mom is tired from working.

Here is how I get Yum Yum to cook my favorite meal. First I press the blue button and code 3-225. Then he will be in cooking mode. So I use my voice to tell him what to cook. If I code “dunk” he will make pizza. Also, if I code “funk” he will cook soup. I have fun coding my robot!
Hey, I'm Matik and I don't know how to cook. So I invented a robot that's named Chef Choppa to teach me how to cook. He also gives me good recipes. When it is time for lunch, I call Chef Choppa to help. When I want to cook dinner for my family, I will ask my robot to help me. Chef Choppa's face will turn into a screen that shows the recipe. He has a refrigerator built into his stomach, so when I press the green button and open the door, all the food I need to prepare dinner, will be right there. Chef Choppa will read all the steps I need to take to make the meal. If I mix the wrong ingredients, Chef Choppa will let me know by moving and his face will say EMERGENCY: wrong ingredient. So I will never mess up a meal. He also has built-in blades to chop food.
Hi my name is Nathan can I ask you some thing? Do you have a robot that can make clothes? Well I do and her name is Ruby. She will dress you up for any occasion. She can make clothes in less than one minute, she has four arms three legs. This helps her cut and sew fabric really fast. She will get angry and she will shut down and quit sewing so don’t get her mad. I created her to help me make clothes so I can be stylish and look cool. This helps my mom save money because she doesn’t have to buy me clothes. I love my Robot Ruby!
Hi, my name is Nazrul. I have a very busy schedule and never have time to clean my room or help around the house. So, I needed someone to clean up the trash in my room and the mess in the rest of the house so that I can have time to play sports and video games. That's when I created a robot named "Garbage Despazil." He can turn into a human named Alex. He looks like a rainbow and has five arms that he extends so that he can clean messes all at once. He cleans up garbage and other messes.

One time, there was a huge mess in the living room. I needed help. That's when I called my robot. When I code 3A4X to my robot, it turns on. Then I code 11 and Garbage Despazil walks to the mess. Next, I code 2, my robot takes in the trash. Last, I code 3, and the robot swallows the trash around. Then it spits it in the garbage.
My name is Nickoy. I have a problem. The problem is that when my mom tells me to pick up the trash in the house, I get lazy and don’t want to do it. So I created a robot called Dji. He is programmed to recycle trash. So I call him a recycle bot. He cleans my room and does the laundry. His special feature is when he sees trash he begins to beep then rushes to pick it up and take it to the trash can. Then put it in the trash can. His codes are: walking, turn left or right, pick up the trash, put the trash in the trash can.
Hi my name is Noah. I created a cool robot, his name is Squid Bot. He has a square head 8 tentacles, one eye, and his mouth is on his bottom. Squid Bot is my favorite robot. He is a helpful robot. He helps me when I can’t reach stuff in the house. He also does super things like save the animals. I programmed him to jump up with his tentacles and get a cat out of the tree. He also cleans up my room, but I help him too because I don’t want to be lazy.
Unicornbunny the star
by Peyton

Hi! Have you ever felt lonely or been so bored you wanted to scream? Well, that happens to me, so I built a robot named unicorn Bunny to spend time with me when I get lonely or bored. For example, if I want to go to the park, I key in code 44 and unicorn Bunny takes me to the park. When I’m on the swing and I need a push, I key in code 45 and she gives me a push. When I’m tired of swinging, I key in code 46 so unicorn Bunny can stop the swing. When I get off the swing, unicorn Bunny takes me home. When I go home, I key in code 47 and unicorn Bunny makes slime with me. Having unicorn Bunny, I am not lonely anymore.
Hi, I'm Roxas and mom and dad need help around the house. So I made a robot that will help them. Oh my God's name is Big Max and Big Max cleans up the house while my parents take care of me and my brother. Big Max is very fast and he really can hold more than a bag of things at one time. All I do is key a code and he does it. For example, I will code 202 and he knows it's clean-up time. His five hands on each arm will appear. The hands can grab the dirty things and put them in his stomach and then everything will come out clean. When I code 3033 Big Max knows to sweep and vacuum. Suddenly his legs become a vacuum cleaner. Big Max helps my family spend more time together.
Is school boring? Well, I have a solution. My name is Trey and I’ve made a robot to destroy schools. I know it sounds crazy, but let me explain. My robot’s name is Lil Slatt. I made him in a lab to destroy all schools that are boring and rebuild them to make them exciting. My robot has a sledgehammer for hands and flamethrower for arms.

First, he uses his sledgehammer to break down the school. Then he uses the flamethrower to burn it down and turn it into ashes so his helper can clean it up to make it fancy and change the subjects. The subjects they use are gym, technology, writing, and art. It makes kids want to come to school. Please keep this between us. Oh, the code to my robot is (3X127r).
About the Authors

Nathan Archambault:
Despite being born and raised in the smallest state in the country, Nathan developed big aspirations to combine creativity and business from an early age. After an active childhood that included publishing poetry accompanied by watercolor paintings, completing art projects that changed the curriculum at his high school, and starting a pet care business that was featured in the newspaper, Nathan attended Syracuse University where he studied Advertising and English. Dueling degrees fresh in hand, Nathan took his show on the road to Washington, DC, and Chicago before settling in New York City and kicking off a career of building brands by making human connections. After making pit stops at world-renowned advertising agencies including Droga5, Anomaly, R/GA, Leo Burnett, Grey, and TBWA/Chiat/Day, Nathan is currently a Freelance Creative Director and Copywriter, working both for ad agencies and directly for brands and start-ups. In 2010, Nathan discovered a passion for technology while working at digital advertising agency AKQA. One of his favorite projects tackled the issue that so many of the important jobs that shape our future are male dominated. When that project didn’t go far enough to change the world, he set out to level the playing field the best way he knew how: by writing a picture book that inspires girls to get into coding. When not writing copy for ads or books for kids, you can find Nathan playing soccer with his English Bulldog or inspiring his two young daughters to grow up to be anything but stereotypical.

Mara Lecocq:
Half French, half Filipino, from a family of multiple cultures on different continents, Mara was taught to keep an open mind and to question the status quo. Before she was 5, her parents introduced her to computers and oil painting, and brought her up with feminist values. Going from the Philippines to Paris, and then Toronto, today, she works in New York at Fishbowl, a new social network for transparent career conversations where professionals can ask advice about career challenges semi-anonymously. Previously, Mara was a digital advertising creative director, and is invited to judge industry award shows, speak at events, and appears in industry press. Mara also founded Where Are The Boss Ladies, the largest database of senior women leaders in advertising. Mara embraces anything fun and scary that comes her way. She is passionate about helping young women build confidence to succeed in the workplace, by making them see what they can be—whether it be through empowering children’s books or giving women access to role models they can work for. Because she was brought up by encouraging parents who inspired her to be curious and fearless, she wishes for all girls to have that opportunity.
About the Student Authors

Class 3/4-218 is a class of 8 unique, energetic, delightful 3rd and 4th graders. We are attentive, diligent and proud students. We display positivity and excellence. We work hard to be tolerant, respectful, and abhor bullying. We are trying our best to be good readers and writers of the future. Finally, we are encouraged and supported by our dedicated teachers Mrs. Rambaran, Mrs. Dennis, Ms. Jennings, Mr. Losey, and Mr. Noble.

3-225 is a class of talented, charismatic, and creative students that are always eager to learn. We strive to be our very best. We are dedicated to always finishing what we started. We work hard every day to show the world that we are capable of succeeding and accomplishing the goals we set. We are growing working as a team because we know that we are better together.

About Behind the Book

Behind the Book brings authors and their books into classrooms to build literacy skills and create a community of lifelong readers and writers. Working with classes from Pre-K through 12th grade, our series of workshops is designed to bring books to life and inspire students to reach their full potential. Behind the Book is embedded in the class curriculum, nurtures critical thinking, creativity, and self-confidence in New York City public school students. All programs meet the Common Core Learning Standards.
CCSS.MATH.CONTENT.4.OA.C.5
Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

CCSS.ELA-LITERACY.RL.3.3
Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.

CCSS.ELA-LITERACY.RF.3.4.A
Read grade-level text with purpose and understanding.

CCSS.ELA-LITERACY.W.3.3
Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

CCSS.ELA-LITERACY.W.4.4
Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.W.4.5
With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
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www.behindthebook.org

By 3/4-218 & 3-225 at P.S. 197 John B. Russwurm