Inspire & Empower
Canadian Children with
CODE

kidscode jeunesse

ANNUAL REPORT
2016-2017

CODE, CREATE, CELEBRATE

Dear KCJ supporter,

In 2013 Kids Code Jeunesse started with a five year mission to provide the opportunity to learn to code for every child in Canada. We wanted to make sure that every child was given the tools needed to communicate, express and invent whatever it was that came to their imagination! We wanted to do the thing that would give children the most opportunities possible to build their world. And we knew it was going to be by bringing code into Canadian elementary schools and their surrounding communities.

We wanted to show young girls that code was a powerful means of expression and to show boys that girls were just as capable to code. We wanted to convince teachers that they could not only learn to code and learn to teach it, but learn to love it. We knew we wouldn't be able to do it alone. So we reached out to governments, private sponsors, the educational system and national and international non-profits to take this crazy idea of making sure every child had the opportunity to learn to code, reality.

As we enter our fifth year we have so much to celebrate!

- We have provided hands-on training to over 2500 teachers.
- We have introduced digital skills to over 25000 + kids.
- We have created International partnerships with world leaders like the Raspberry Pi foundation and Code Club World.
- As the only national organization exclusively focused on coding education for youth, we were chosen by the Ministry of Education of British Columbia to deliver teacher training across the province with our partners at Lighthouse Labs.
- Alumni from our first in-classroom pilots, in 2013, are now representing Canada at international robotics competitions (and they are all girls!).

In 2017 I attended two important events. First, the Raspberry Pi birthday in Cambridge, UK, where I worked with education leaders from over 12 countries to share and learn about approaches to teaching children in our respective countries. And, secondly, the International Scratch Conference where I have presented 3 workshops with Dr Margarida Romero on computational thinking and assessment, creativity and code, and physical computing to teachers from over 20 different countries. And an absolute highlight of the conference was to meet and talk with Mitch Resnick, the creator of Scratch.

None of this would have been possible without the support from thousands of volunteers and forward thinking companies, like Vigilant Global and Ubisoft, who have been with us from the beginning. We would not have been able to make big impact without funding from corporations like Microsoft, SAP, and Google; or develop content and grow our organization with support from CIRA and NSERC.

In June, along with our Canadian non-profit partners Actua and Ladies Learning Code we celebrated the launch of CanCode, a $50 million commitment by the federal government to join us in making sure that Canadian children are equipped with the 21st century skills they need to succeed.

As we imagine our future goals and challenges we have every reason to believe that Canada can be a world leader in nurturing our most precious resource, our curious, bright and creative children. Thank you for all of your support. There is much to look forward to in the coming years!

KATE ARTHUR
Founder & Director

Code, Create, Learn

"Apprendre à coder. Coder pour apprendre."

Students at école Paul Jarry

When Christine Jost, director of Ecole Paul Jarry in Lachine heard Kate Arthur speaking on the radio one morning she had what she calls "une prise conscience," a sudden sense of her responsibility to ensure that her students were digitally literate." She decided that every teacher in her school would teach at least two projects using code. These days, code is everywhere" says Jost. In her elementary school, 60% of the students are living under the poverty line, "so it's even more important for them to develop their competencies in the context of a digital world."

National lead instructor, Yasmin Ahmad, was up to the challenge of both training teachers and supporting them in classroom assimilation. When Ahmad returned to the school for follow up, "it was often the teachers who were the most resistant to learning code who ended up finding the most creative and interesting ways to use code in their classrooms." *Apprendre à coder. Coder pour apprendre* has now become a school slogan.

The students of Paul Jarry join over 25,000 kids across Canada who have had the chance to learn to code thanks to the efforts of our instructors. With ongoing financial sponsorship and volunteers from companies like Vigilant Global, Microsoft, Google, SAP, Morgan Stanley and Ubisoft. Kids Code Jeunesse has been there to support the early adopters, and convince the skeptical.

KCJ instructor Erika Kehler getting a group hug in Maple Ridge, B.C. for last class of an 8 week workshop

In the fall of 2017, Ahmad will be leading a team of instructors who will be bringing our eight-lesson coding workshops to over 120 schools in the Commission Scolaire de Montréal (CSDM), the largest school board in Quebec. The workshops are designed to teach students and teachers how to code, but also to showcase how computational thinking and coding can stimulate learning in any subject.

"Teachers need a support team of specialists from the surrounding community," says Jost. Despite the progress that she and other schools are making, "the importance of learning to code as a means to better digital literacy is an idea still not widely accepted in Quebec." For this challenge, "we count Kids Code Jeunesse as a major partner."

KCJ instructor Yasmin Ahmad in the classroom at École Paul-Jarry

Code, Create, Make

"We need to create and maintain this culture of curiosity so that our population can be inspired to ask bold questions, and seek new knowledge."

- The Honourable Kirsty Duncan, Federal Minister of Science on the launch of Science Odyssey

In our mission to create a thriving digital culture outside as well as inside the classroom, Kids Code Jeunesse works hand in hand with the many libraries and other community groups that are now at the forefront of making sure that kids have a place to learn and practice the 21st century skills they need.

In May, thanks to a grant from NSERC for its Science Odyssey program, we were able to bring coding into libraries from Quebec City to Coquitlam, B.C. Thanks to a further commitment from NSERC of three years of funding towards national coordination and outreach, Kids Code Jeunesse will be able to sustain and grow our connections with libraries and other learning centers across Canada.

KCJ instructor Erika Kehler at Coquitlam Public Library, B.C.

"What's great about libraries," says KCJ co-director Juliet Waters, is that "without even trying, we find the ratio of boys to girls is often 50-50."

With the appropriate materials and facilitators, digital literacy can thrive alongside traditional literacy as more and more libraries become de facto maker spaces, like Benny Library in Montreal, which offers 3D printing lessons.

In the fall of 2017, KCJ will launch Code Club Canada as part of our international partnership with the U.K. based Raspberry Pi Foundation. Code Club provides a bank of projects translated into over 20 languages and easy to facilitate by volunteers who may be learning to code alongside kids.

Code Clubs from Hamilton Ontario to Pangnirtung, Nunavut have already used our step by step projects to build and expand their coding skills. Our hope is to expand this program to other cities and towns across the country, putting Canadian children and their curiosity at the forefront of global creativity and innovation.

Code, Create, Play

In the spring of 2017, every Saturday morning, Charlotte Van Voorhas, 13, and her brother, Ben, travelled an hour from Rigaud, Quebec to attend KCJ "Scratch Bootcamp," an 8 week video game making course.

Charlotte, 13, is artsy and was surprised how much graphic design is involved. Ben was feeling frustrated with his attempts in robotics." Now that I know how to code it's a lot easier and a lot more fun to do." Their mother Donna McDougall, is amazed at how much they've learned and how important code has become to them. Ben mimes his teacher's silent amazement when he showed her a game he created to improve his French vocabulary. "And then she kept playing it the rest of the afternoon!"

Scratch was launched ten years ago, as a collaboration between MIT and the Montreal based Playful Invention Company. Few could have predicted that it would would become a platform where kids, teachers and parents have shared over 22 million projects in close to 30 different languages.
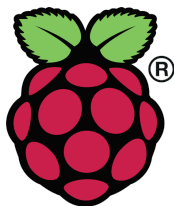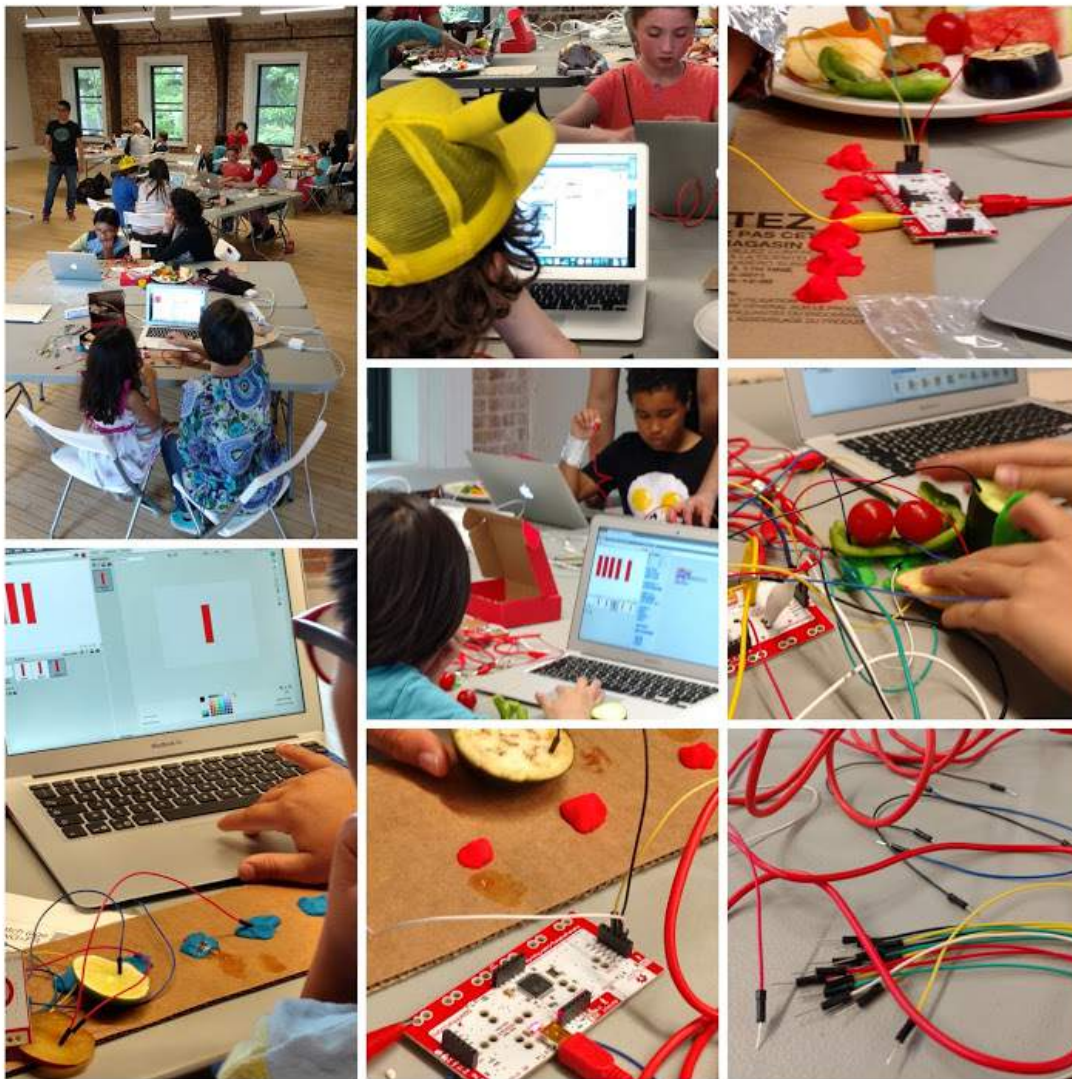
KCJ shares the education philosophy that drives Scratch, the belief that kids learn best through play. Launched in the fall of 2016, Code, Create, Play workshops explore programming in a variety of contexts, including games, art, music and storytelling. While many of these take place in libraries and community centers across the country, they are often piloted at our homebase at Notman House.

Thanks to generous funding from Google Community grants this year we were able to add hardware to the mix, with new workshops that explore the credit card sized computer Raspberry Pi, and Makey, Makey a device that turns almost anything--even food--into a device that works with code. Thanks to a Google Rise grant we'll be able to improve on and provide materials for new Code Create Play workshops across Canada.
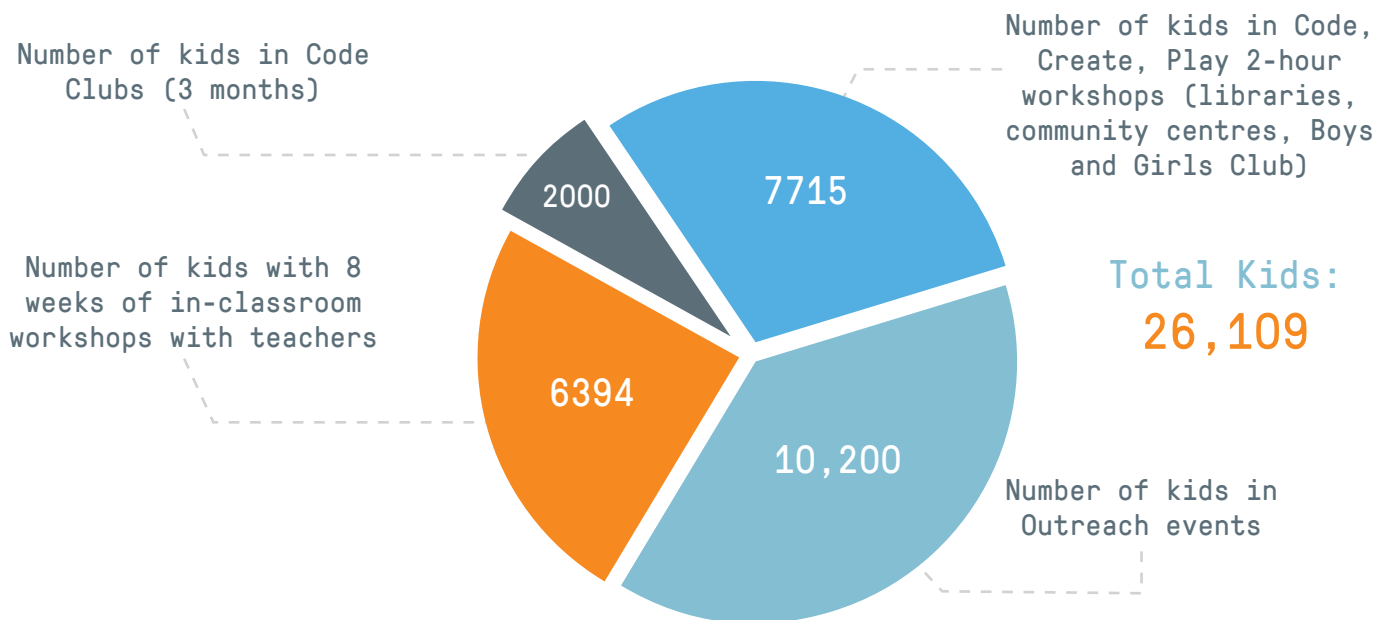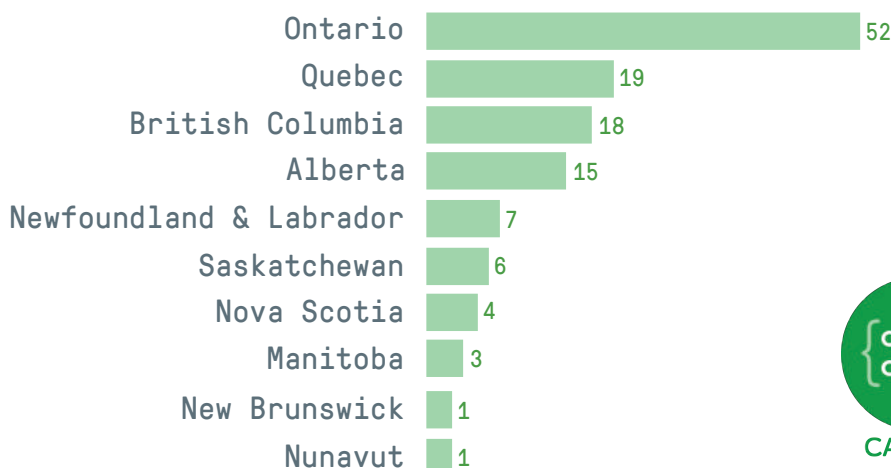
Code, Create, Grow

Kids (5-12) in our Workshops & Code Clubs

Number of kids in Code Clubs (3 months)

Number of kids in Code, Create, Play 2-hour workshops (libraries, community centres, Boys and Girls Club)

Number of kids with 8 weeks of in-classroom workshops with teachers

2000

7715

6394

10,200

Total Kids:
26,109

Number of kids in Outreach events

Code Clubs Throughout Canada

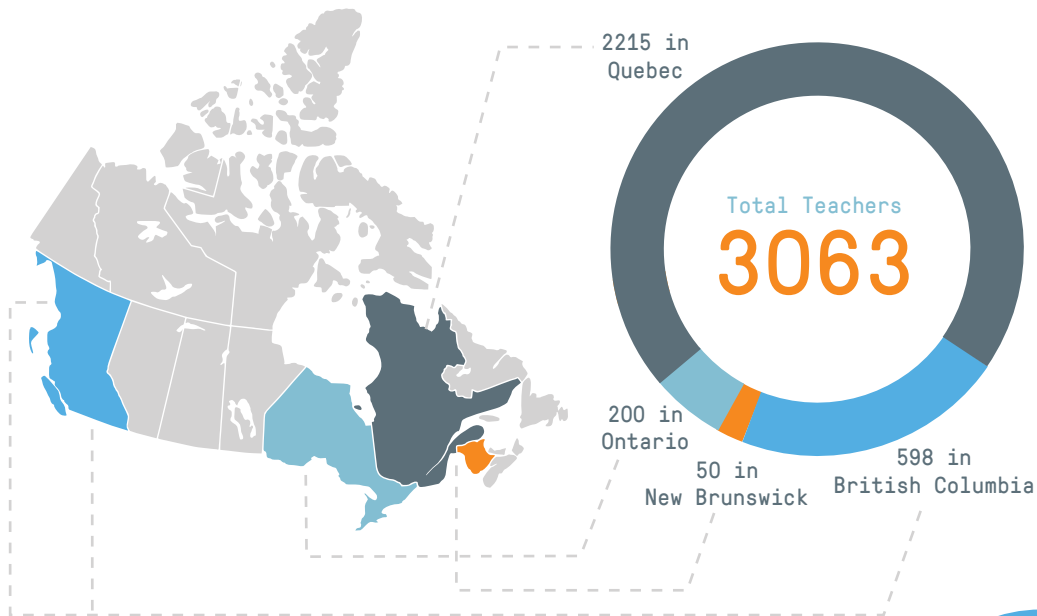| Province	Count
Ontario	52
Quebec	19
British Columbia	18
Alberta	15
Newfoundland & Labrador	7
Saskatchewan	6
Nova Scotia	4
Manitoba	3
New Brunswick	1
Nunavut	1

Code Club is connected with the CoderDojo & Raspberry Pi international network - reaching over 35,000 kids in 69 countries worldwide.
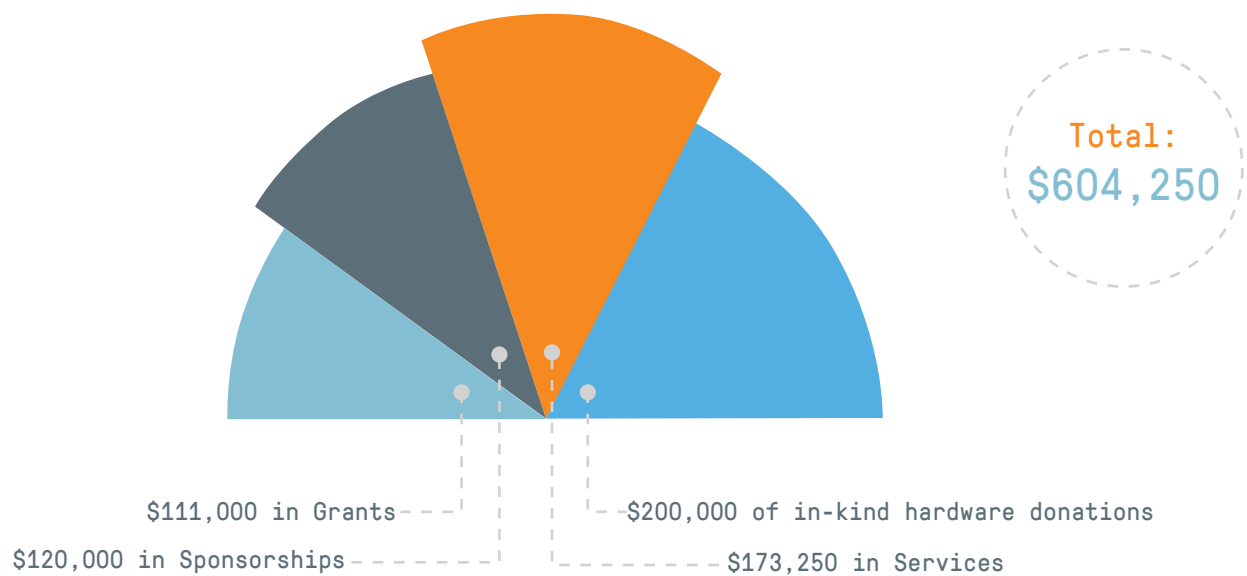
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CANADA

Total Code Clubs in Canada:
130

Our Teachers Throughout Canada

2215 in
Quebec

Total Teachers
3063

200 in
Ontario

50 in
New Brunswick

598 in
British Columbia

Master teachers empowering teachers in their districts

200 Master Teachers in BC!

Our Financial Distribution

Total:
$604,250

$111,000 in Grants

$120,000 in Sponsorships

$200,000 of in-kind hardware donations

$173,250 in Services

Code, Create, Teach

"If I can charge them with courage and confidence then I have done my job"

- Grade 8 teacher, Code Class 2016

Founder Kate Arthur mentors at first workshop in Chilliwack

In September of 2016 Kids Code Jeunesse was awarded the privilege of delivering the first master teacher workshops across the province of British Columbia with our teaching partners, Lighthouse Labs. The two years of workshops were contracted by the British Columbia Ministry of Education to support teachers who will be mandated to teach code in 2018.

"Kids Code Jeunesse's extensive experience in creating student and teacher resources to teach computational thinking and coding was a key consideration in the awarding of the contract for this work," says Tim Winkelman, director of custom programs for the ministry.

Sixty school districts were invited to send two teachers to attend one of six regional sessions taking place over four months in Victoria, Vancouver, Chilliwack, Kelowna, Trail and Prince George. Teachers were provided with Student Learning Modules designed to teach computational thinking with "unplugged" activities away from the computer, and hands on coding exercises that work in both resource high urban classrooms and rural districts where Internet service is less dependable.

B.C. Minister of Education, Mike Bernier, launches Vancouver workshop at the Microsoft Centre of Excellence

"I found the Student Learning Module very valuable," wrote one respondent after the two day Vancouver workshop at the Microsoft Centre of Excellence. "The projects were very well created and engaging." Ann Pimentel a teacher at James Kennedy Elementary School in Langley B.C. wrote weeks later on her blog: "We had an INSPIRE Day with selected students in the Aboriginal and Gifted programs. This activity came from the Train the Trainer program in Chilliwack delivered by Lighthouse labs and Kids Code Jeunesse... It was a blast!"

In September 2017 the Lighthouse/KCJ team will deliver a second round of workshops in B.C. They join the over 3000 teachers who Kids Code Jeunesse has already trained across the country thanks to the support of agencies like the Canadian Internet Registration Authority (CIRA) who in 2016 funded our teacher training materials, and Google Montreal, who provided their offices and dinner in 2017, for Montreal teachers interested in learning to code through their own initiative. In 2017, thanks to our partners Light House Lab and Right to Play we were able to offer our Intro to Code workshopt to Toronto teachers as well. Canadian teachers are proving that with the right support, they can be confident and enthusiastic about preparing their students with 21st century skills.

Code, Create, Innovate

"Our government is investing in a program that will equip young Canadians with the skills they need for a future in which every job will require some level of digital ability. Coding teaches our young people how to work as a team to solve difficult problems in creative ways. That's how they will become the next great innovators and entrepreneurs that Canada needs to succeed."

– The Honourable Navdeep Bains,
Minister of Innovation, Science and Economic Development

Code On the Hill, now in its second year, is an event where Ottawa school children are invited to learn to code on the grounds of Parliament Hill. Kids Code Jeunesse was there this June 14th in the senate courtyard facilitating a code club project, alongside our educational non-profit partners, Canada Learning Code and Actua. It was the perfect opportunity for The Honourable Navdeep Bains, Minister of Innovation, Science and Economic Development, to officially open CanCode, a program that has committed $50 million over the next two years with the goal of allowing 500,000 kids to learn to code. The project invites Canadian non-profits who have at least three years experience teaching code to apply for up to 5 million a year towards operating costs and pilot projects.

"Most jobs in the future will most likely have some sort of connection to coding," Bains told the crowd of children on a break from creating animation loops, playing with robots, and designing 'unplugged' algorithms - away from computers. "Some of you may develop incredible apps. Most of you won't even probably have (driver's) licences because you'll develop the coding and programming needed for driverless cars."

Media was on hand and the next day the Globe & Mail had this to say about CanCode: "If you are trying to boost the economy, a widespread upgrade in education and skills that fit growing needs is proven to be effective. And having a generation with more fluency in the digital skills that will be required to develop new technology is a good way to improve the odds the economy will see more innovation."

Girls learning Scratch through Code Club Canada project

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