

## Girl Powered Online Challenge

### North London Cybernetics Squad Entry

#### Participants



Team Number

**74454E**

Location

**London, UK**

**North London  
Collegiate School**

**Tosin Ononaiye (left), Ananya Janakan (middle), Diya Sahjpall (right)**

## Girl Power Speech:



We are the North London Cybernetics Squad from NLCS. As girls, we support feminism and encourage more of our fellow classmates to participate in STEM related clubs in and outside of school, but we think often that feminism can be taken too far like if a man is better at something compared to a woman, we would choose the man to do the job, though often it can be said that the woman would be chosen because of 'feminism', and we don't believe in that.

Our team is more inclusive because we are a small team. We are from diverse cultures: African background, Sri Lankan background and Indian background.

When we hear the phrase, 'Girl Powered' the first thing that comes to mind is a group of women thriving in any area of life because they are working hard to succeed in what they want

to achieve. I think this is reflected in our team's approach to robotics as we are all hard-working individuals who want nothing more than to succeed and to accomplish everything we possibly can. We are a group who get along and not only enjoy robotics but enjoy working with one another to achieve the goals we have set this year in Pitching In. The phrase 'Girl Powered' encourages diversity as this phrase encourages all girls to participate no matter what your ethnicity is. This phrase also reflects how unique each member of our team is and how different we are and how that difference shows we can accomplish great things as a team.

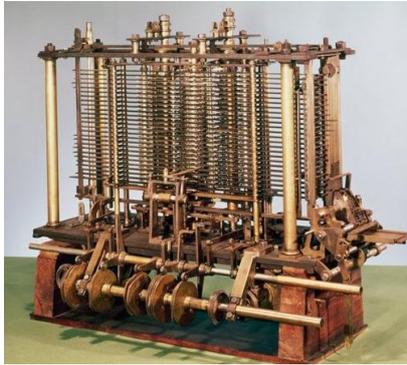
We are a team of three people, so we tended to switch round roles when we started, and now we know what we are best at and have accordingly distributed roles: Tosin is the main driver and builder; Diya is programmer, builder, stem researcher and driver; Ananya is notebook manager, strategist, and stem researcher. However, when it comes to designing, we all do it together before a chosen person makes the final design so that the robot has input from everyone.

We are different so our views tend to differ slightly and allow us to find more efficient ways for the robot to work because each person has a different input, and our team is more personal because it is easier to work with one another and understand each other and as we are the same year and school, we are close friends, so we accept each other's faults and work around them, which ultimately helps us succeed.

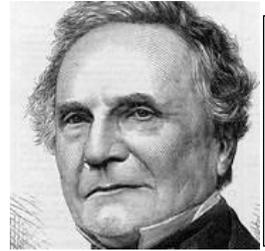
## Our Role Model



Ada Lovelace is our role model because she had opportunities, as her family believed that she should study logic, science, and mathematics- subjects that we study- and she achieved so much, which inspires us because we can achieve what she has if we try hard enough and become successful. She was only acknowledged after her life, which also shows her passion for early computer science without fame changing her course. Ada Lovelace is an inspiration for all of us because of her thoughts which were a century ahead of her time. Computer science is a passion that we all share, and it brings us together, so we are grateful to Ada and her contributions to computer science.



In 1833 Ada Lovelace and Charles Babbage, inventor and mechanical engineer met, and Babbage told Lovelace his ideas for a device called the Analytical Engine. Even though their design was never built it had all the essential elements of a modern computer. Lovelace analysed the plans of the Analytical Engine and wrote her comments, these notes have been described as the first computer



Source:

<https://www.techtricksworld.com/charles-babbage/>

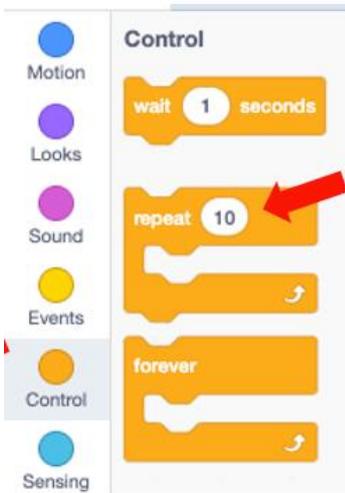
Image of Charles Babbage

Source:

<https://www.bbc.co.uk/news/round/49960544>

Image of a model Analytical Engine

programmes.



Lovelace has made several contributions to the world of computer science but one of the contributions that are used frequently in coding is the loop function. In her work, Lovelace described how codes could be created for a device to combine letters and symbols alongside numbers. After making this discovery she invented a method for the Analytical Engine to repeat an instruction or a series of instructions a certain number of times, this process is called looping which is commonly found in any type of code and can even be found in VEX IQ's code.

Source:

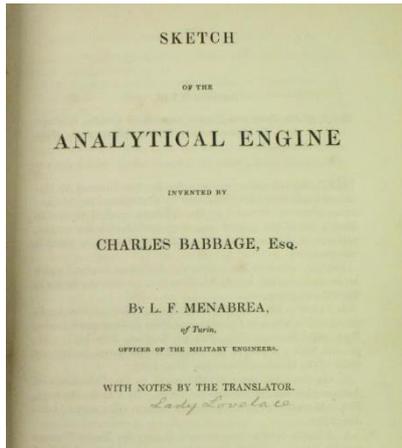
<https://www.codedojotc.org/scratch/intro/05-loops/>

Image of the loop function

Source:

<https://news.justcollecting.com/rare-ada-lovelace-computer-book-auction/>

Image of Ada Lovelace's published work



Lovelace's work was published in 1843, in an English Scientific Journal. Even though Lovelace's contributions to computer science shall never be forgotten, it took over 100 years for her work on the Analytical Engine to become a reality. Her works inspired Alan Turing's research which eventually resulted in the first modern computer in the 1940s all of which would have not happened if it was not for her discoveries in computer science in the 1800s. Unfortunately, Lovelace did not get the praise she deserved when she was alive, but her work has been appreciated by the U.S. Department of Defence in 1980, named a newly developed computer language 'Ada' after her.

**Thank you for reading our Girl Powered Project**