

# Coursre essays examples

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## **Ada Lovelace – biography**

### Introduction

Ada Lovelace was a well-known mathematician come computer programmer born on December 10th, 1815. She was the daughter of the romantic poet, Lord George Gordon Brown and Lady Anne Isabella Milbanke Byron. The marriage of her parents did not last as they were separated when Ada was born. Ada's father left England forever and never returned. He died in Greece when Ada was eight years old. She was left to the upbringing of her mother in an unusual manner. Unusual because her mother insisted that she was to be taught Mathematics and Science alone. Her mother insisted that it would help her not to develop moody characteristics that her father had. She was also told to lie down and stay calm as it would help her to have some self-control. At an early age, she showed the urge and the talent for numbers in all her growth.

She was brought up in turbulent household where she grew up with a love for machines. She was encouraged to a greater extent by her grandmother Judith until when she passed on. It was then that she was brought up by several nannies as was the custom and being taught by several tutors employed by her mother. She was born in an era where there were a scarce number of women involved in the Computer Science sector as it was dominated by the males. Women were seen to be inferior and their ideas were neither adopted nor looked into to see if they made any sense as far as technological advancements in Computer Science were concerned (Cozza 27).

She stood out as a remarkable woman in the 1840s with her understanding of computing which remained unparalleled and unappreciated for a century

(100 years). Though during her growing up time, women were denied access to education but she saw further into the future to a greater extent unlike her male counterparts. With respect to her hard work, her innovations influenced the thinking of one of the World War II's greatest mind.

Ada met Charles Babbage when she was 17 years old. Babbage was a mathematician and inventor. They were friends and Babbage became a mentor for Ada in all her work. It is through Babbage that Ada started studying advanced mathematics with professor of Mathematics, Augustus de Morgan. Ada was interested with Babbage's difference machine. She had a chance to look at the machine before it was completed. She got captivated by the machine and was much interested in how the machine would work. Babbage also designed another machine which was to handle complex calculations, that was called Analytical Engine. She got the chance to translate an article that had been written by Italian engineer, Luigi Federico Menabrea to be included in a Swiss journal. it was here that her contributions were realized.

### **Lovelace's contribution to technological development in computer science**

She was referred to as the first person not just the first woman as a computer programmer which her male counterparts had not yet been able. It is attributed to the fact that she described how codes could be created for the Analytical Engine device to handle letters and symbols along with numbers. She also theorized a method for the engine to repeat a series of instructions in the process she referred to as looping that today computer programmers' use.

Lovelace is also respected for her great contribution in coming up with tables of perfect numbers that could be calculated by the machine. She also noted that the machine could create music and graphics if the right inputs are given to it. She made it clear that the Analytical Engine could weave algebraic patterns just as the Jacquard loom weaves flowers. Her inventions are used up to date since computers can be used to calculate any given mathematical data and come up correct answers.

Ada Lovelace is also given tribute for having contributed greatly to the realization of the Bernoulli numbers. In this area, she mainly focused on one set of numbers that were complex numerical system first described by the Swiss mathematician Jakob Bernoulli. She discovered that the numbers could be calculated by the machines on their first principles. This idea was used along different centuries up to today that we refer to as Bernoulli's' principle.

She also aided in the development of computer science in terms of computing. She had a better understanding of the Analytical Engine which Babbage had discovered to a greater extent than himself. She studied the Analytical engine with her expert ability to the depth. She described a number of what is known in the modern world as programs that could enable the Analytical Engine to be to do computations without the answers having been calculated by the human hand first. She stressed that the Analytical Engine could produce results without human interference to draw a clear distinction between it and its predecessor, Difference engine and the automation.

In the many works she did, she also came up with a concept of how to break

down the algebra into simple formulae and then how to code those formulae as instructions for the Analytical Engine. Her ideas were most outstanding and elaborate than the sketches for programs that were made earlier by Babbage. Her ideas were more complete and thus had to be published before those of Babbage. It gave her a renowned title as the first computer programmer. She is acknowledged for having been the first person to write and publish a full set of instructions that a computing device use to achieve an end result that had not been calculated by the science majors who were there before her.

She also aided in developing peoples mind on computing by her ideas of producing large error-free tables of numbers used in the modern day technology in computing. During her life, this idea was not appreciated until when Allan Turing put it forward for the practice during the World War II with the help of her Menabros paper and its attendant notes (Smith 245).

### **Contributing factors to Adas' achievements**

Lovelace's achievements are greatly attributed to her passion and love for science, mathematics and technology, a unique character that would not be expected of her woman. At her early age, she spent most of her time poring over diagrams of new inventions and eagerly looked into any new periodical journals she could access. It gave her mother motivation to support her both physically and financially through assigning tutors from England with the finest mind to teach and help her develop more in her knowledge of advancing computer science.

Lovelace also gained more prominence in science oriented innovations because she was Byron only legitimate daughter who was known to be hard

working. She told her mother that she would become a science analyst herself given the fact that her father was a poet. She used to work throughout without having adequate rest. Hence, she encountered endless headaches up to a point that she contracted measles for a whole year (1829). It left her walking on crutches but she later on recovered and continued with her studies (McCormack 37).

Ada's grandmother Judith was also of great inspiration in her career of advancing technology at an early age. It was until her realization of having the talent of coming up with useful ideas at later years in Computer Science that are used up to today.

She also shared knowledge with other scientists like Charles Babbage, De Morgan, and Bernoulli. All these made her to become more prominent in her scientific inventions and ideas because she could improve on some of their ideas. An example is that of Babbage concerning the ability of the Analytical Engine being able to calculate and giving correct answers before they were worked out by man. She reached a level of being known as the first computer programmer. (Source Passion for Science: Tales of Discovery and Inventions).

### **Challenges faced by Lovelace**

In the attempt of coming up with an idea or something that purports to bring change to the society and the world at large, any inventor or the person involved should be prepared. Th preparation should be both psychologically and physically to face rejection from the people he or she intends to bring change. For Ada having been a woman and brought up in an era where women had no chance to go access education fully, she had a love and

passion for machines, mathematic and technology related occupations. Most of these were seen as male oriented and very few chances of feminine ability. She went through many challenges though she never gave up until her untimely death from uterine cancer in 1852. Among them;

Her achievements were underrated like many women who have contributed great ideas to the fields of science, technology, engineering, as well as mathematics over the past centuries. It can also be seen today where feminine is viewed as being weak knowledge wise when it come to technical fields like mathematics and science. Though she was never acknowledged, she never gave up (Toole 73).

She was criticized by many historians of her time, the likes of Bruce Collier who claimed that she did not qualify to be titled as the first computer programmer as she had not actually written the Bernoulli program. She was also said to be a hatter a that she contributed very little to the Manbrea notes than trouble. Benjamin Woolley said that she made just “ some contributions”.

She was also criticized that she did not have a good understanding of calculus and as the logic goes she could not have had the ability to come up with the Bernoulli program.

Many of her male counterparts like Charles Babbage got financial support from the government and other organizations. For Ada, her main source of financial support was from her mother who wanted her to get the best education and realize her scientific abilities since herself had enjoyed first-class education. To enable women become empowered, the government and other stakeholders need to recognize and greatly appreciate the efforts of

women who seem to be great innovators. It is especially true in matters to do with science and technological ideas if there is one. Even though Ada got full financial support from her mother, it was not enough to make her ideas be accepted in the world.

She also went through much discouragement from her peers and other ordinary people who had no idea of what science was all about. Despite the fact that she was being overlooked by many, she never gave up. She continued to read even deeper and did much research in mathematics and science which made her succumb to nonstop headaches as she had no time to rest. Her mother even thought that she would go mad like her dad.

## **Conclusion**

The Computer Science sector is likely to produce biased in terms of hegemonic dominance of the masculine gender compared to the feminine because women are seen as inferior in giving out reasonable ideas.

Mentoring and empowering both genders in developing their careers would establish a neutral society. The persons or organizations acting as mentors are to provide advice, support, promotion, protection and sponsorship which could increase an individuals' social capital thus encouraging many women scientists. However, this is not the case on the ground. Like the case of Ada Lovelace she was neither appreciated nor acknowledged in her trials and struggles in inventions towards Computer Science. If she were encouraged with everybody, she would have made greater contributions as far as Computer Science is concerned. Gender balance in any innovation is very important because men alone cannot produce the desired or correct answers which can be used over the next generations (Light 8).



## Works Cited

Cozza, Michela. " Bridging Gender Gaps, Networking in Computer Science." Gender, Technology and Development 15. 2 (2011): 319-337.

Light, Jennifer. " Computing history: Geeks, Inc." Nature 514. 7520 (2014): 32-33.

McCormack, Jon, and Mark d’Inverno. Computers and Creativity. Springer, 2012.

Smith, Erika E. " Recognizing a Collective Inheritance through the History of Women in Computing." CLCWeb: Comparative Literature and Culture 15. 1 (2013): 1.

Tatnall, Arthur. " History of Computers: Hardware and Software Development." Encyclopedia of Life Support Systems. UNESCO-Eolss Publishers Co Ltd: Ramsey, Isle of Man (2012).

Young, D. (2012). Women Who Code–In Honor of Ada Lovelace’s Birthday.