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Кафедра английского языка обеспечивает преподавание дисциплины «Английский язык» на факультете математики и технологий программирования. Каждый выпуск студенческой газеты подготавливается преподавателями, студентами и магистрантами факультета и представляет обзор событий и новостей в сфере информационных технологий



*A thing of beauty is a joy for ever:
Its loveliness increases; it will never
Pass into nothingness; but still will keep
A bower quiet for us, and a sleep
Full of sweet dreams, and health, and quiet breathing.*

By John Keats

BC 100 Women: Nine things you didn't know were invented by women

Asked to name important inventors and you might start with Thomas Edison, Alexander Graham Bell or Leonardo da Vinci.

But what about Mary Anderson? Or Ann Tsukamoto?

You might not know their names, but they are just two of the female inventors behind everyday objects and scientific innovations.



1. Computer software - **Grace Hopper**

After joining the US Navy during the Second World War, Rear Admiral Grace Hopper was assigned to work on a new computer, called the Mark 1.

It wasn't long before she was at the forefront of computer programming in the 1950s. She was behind the compiler, which could translate instructions into code that computers can read, making programming quicker and ultimately revolutionising how computers worked.

Hopper also helped popularised the term "de-bugging" that we still use on computers programmes today, after a moth was removed from inside her machine.

"Amazing Grace", as she was known, continued working with computers until she retired from the navy as its oldest serving officer, aged 79.



2. Caller ID and call waiting - **Dr Shirley Ann Jackson**

Dr Shirley Ann Jackson is an American theoretical physicist, whose research from the 1970s is responsible for caller ID and call waiting. Her breakthroughs in telecommunications have also enabled others to invent the portable fax, fibre optic cables and solar cells. She is the first African-American woman to gain a PhD from the Massachusetts Institute of Technology and the first African-American woman to lead a top-ranked research university.



3. Windscreen wiper - **Mary Anderson**

On a winter's day of 1903, Mary Anderson was visiting New York City when she noticed that her driver was forced to open his window, just to clear the snow from his windscreen. Every time the window was open, the passengers in the car got colder. Anderson started drawing her solution of a rubber blade that could be moved from inside the car, and in 1903 was awarded a patent for her device. But the invention proved unsuccessful with car companies, who believed it would distract drivers. Anderson never profited from her invention, even when the wipers later became standard on cars.



4. Space station batteries - **Olga D Gonzalez-Sanabria**



It might not have the catchiest name on this list, but the long cycle-life nickel-hydrogen battery has helped power the International Space Station, so it's pretty important. Olga D Gonzalez-Sanabria, who is originally from Puerto Rico, developed technology which helped create these batteries in the 1980s and is now director of engineering at Nasa's Glenn Research Centre.

5. Dishwasher - **Josephine Cochrane**



A frequent entertainer, Cochrane wanted a machine that would wash her dishes faster than her servants, and be less likely to break them. Her machine, which involved a motor turning a wheel inside a copper boiler, was the first automatic dishwasher to use water pressure. Cochrane's alcoholic husband had left her with masses of debt after his death and this motivated her to patent her invention in 1886 and open her own production factory.

6. Home security system - **Marie Van Brittan Brown**



A nurse, who was often home alone, Marie Van Brittan Brown came up with an idea that would make her feel safer. Together with her husband Albert, Van Brittan Brown developed the first home security system in response to the rising crime rates and slow police responses of the 1960s. The device was complicated, with a camera powered by a motor which moved up and down the door to look through a peephole. A monitor in her bedroom also came equipped with an alarm button.

Image copyright Hannah Eachus

7. Stem cell isolation - **Ann Tsukamoto**



Her patent was awarded in 1991 and since then Tsukamoto's work has led to great advancements in understanding the blood systems of cancer patients, which could lead to a cure for the disease. Tsukamoto is currently conducting further research into stem cell growth and is the co-patentee on more than seven other inventions.

8. Kevlar - **Stephanie Kwolek**



This chemist invented the lightweight fibre used in bullet-proof vests and body armour. Since her discovery in 1965, the material, which is five times stronger than steel, has saved lives and is used by millions every day. It's found in products ranging from household gloves and mobiles phones to aeroplanes and suspension bridges.

9. Monopoly - **Elizabeth Magie**



A man named Charles Darrow is often credited with creating the most popular board game in history, but the rules were in fact invented by Elizabeth Magie. Magie wanted to demonstrate the problems with capitalism with an innovative game in which players traded fake money and property. Her design, which she patented in 1904, was called The Landlord's Game (Monopoly).

Ada Lovelace

A gifted mathematician, Ada Lovelace is considered to have written instructions for the first computer program in the mid-1800s.

Who Was Ada Lovelace?

The daughter of famed poet Lord Byron, Augusta Ada Byron, Countess of Lovelace - better known as "Ada Lovelace" - was born in London on December 10, 1815. Ada showed her gift for mathematics at an early age. She translated an article on an invention by Charles Babbage, and added her own comments. Because she introduced many computer concepts, Ada is considered the first computer programmer. Ada died on November 27, 1852.

Early Years

Ada Lovelace, born as Augusta Ada Byron, was the only legitimate child of the famous poet Lord George Gordon Byron. Lord Byron's marriage to Ada's mother, Lady Anne Isabella Milbanke Byron, was not a happy one. Lady Byron separated from her husband only weeks after their daughter was born. A few months later, Lord Byron left England, and Ada never saw her father again. He died in Greece when Ada was 8 years old.

Ada had an unusual upbringing for an aristocratic girl in the mid-1800s. At her mother's insistence, tutors taught her mathematics and science. Such challenging subjects were not standard fare for women at the time, but her mother believed that engaging in rigorous studies would prevent Lovelace from developing her father's moody and unpredictable temperament. Ada was also forced to lie still for extended periods of time because her mother believed it would help her develop self-control.

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From early on, Lovelace showed a talent for numbers and language. She received instruction from William Frend, a social reformer; William King, the family's doctor; and Mary Somerville, a Scottish astronomer and mathematician. Somerville was one of the first women to be admitted into the Royal Astronomical Society.

Babbage and the Analytical Engine

Around the age of 17, Ada met Charles Babbage, a mathematician and inventor. The pair became friends, and the much older Babbage served as a mentor to Ada. Through Babbage, Ada began studying advanced mathematics with University of London professor Augustus de Morgan.

Ada was fascinated by Babbage's ideas. Known as the father of the computer, he invented the difference engine, which was meant to perform mathematical calculations. Ada got a chance to look at the machine before it was finished, and was captivated by it. Babbage also created plans for another device known as the analytical engine, designed to handle more complex calculations.



Ada was later asked to translate an article on Babbage's analytical engine that had been written by Italian engineer Luigi Federico Menabrea for a Swiss journal. She not only translated the original French text into English, but also added her own thoughts and ideas on the machine. Her notes ended up being three times longer than the original article. Her work was published in 1843, in an English science journal. Ada used only the initials "A.A.L.," for Augusta Ada Lovelace, in the publication.

In her notes, Ada described how codes could be created for the device to handle letters and symbols along with numbers. She also theorized a method for the engine to repeat a series of instructions, a process known as looping that computer programs use today. Ada also offered up other forward-thinking concepts in the article. For her work, Ada is often considered to be the first computer programmer.

Ada's article attracted little attention when she was alive. In her later years, she tried to develop mathematical schemes for winning at gambling. Unfortunately, her schemes failed and put her in financial peril. Ada died from uterine cancer in London on November 27, 1852. She was buried next to her father, in the graveyard of the Church of St. Mary Magdalene in Nottingham, England.

Personal Life

In 1835, Ada married William King, who became the Earl of Lovelace three years later. She then took the title of Countess of Lovelace. They shared a love of horses and had three children together. From most accounts, he supported his wife's academic endeavors. Ada and her husband socialized with many of the interesting minds of the times, including scientist Michael Faraday and writer Charles Dickens.

Ada's health suffered, however, after a bout of cholera in 1837. She had lingering problems with asthma and her digestive system. Doctors gave her painkillers, such as laudanum and opium, and her personality began to change. She reportedly experienced mood swings and hallucinations.

Legacy

Ada Lovelace's contributions to the field of computer science were not discovered until the 1950s. Her notes were reintroduced to the world by B.V. Bowden, who republished them in *Faster Than Thought: A Symposium on Digital Computing Machines* in 1953. Since then, Ada has received many posthumous honors for her work. In 1980, the U.S. Department of Defense named a newly developed computer language "Ada," after Lovelace.



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