*Anhelina Belavezha*

*How women have influenced the field of computer science*

Today, we embark on a journey to explore the remarkable influence of women in the dynamic realm of computer science. In this landscape, the influence of women has often been overlooked or underrepresented. However, it's crucial to recognize that historical barriers limited women's access to formal education, significantly impacting their presence in the field.

Here I have presentation plan and key vocabulary.

Despite historical challenges and stereotypes, women have played pivotal roles. Through their innovation, determination, and resilience, they have left an indelible mark on the landscape of technology. Join me as we delve into the transformative contributions of women in computer science.

So now please look at the screen. Here I made the time diagram with most important and interesting (in my opinion) women and their achievements. And this is an extra small suit from several hundred of the smartest female scientists.

1. Let start from 1757. In this year Nicole-Reine Lepaute was one of a team of human computers who predict the date of the return of Halley's Comet. Maybe you want to ask, how is it connected with computer science? They divided large calculations into "independent pieces, assembled the results from each piece into a final product" and then checked for errors.
2. Let’s move on. Here we have the portrait of Ada Lovelace, who became the first programmer in 1840. We will speak a little more about her and two other women in the main part of presentation.
3. Speaking about 1875, Anna Winlock asked to become a human computer for the Harvard Observatory. Even though they performed an important role, the Harvard Computers were paid less than factory workers.
4. Speaking about 20th century, we can start from Beatrice Cave-Brown-Cave, who had calculated trajectories for bomb shells.
5. Let’s move on. In 1925 Edith Clarke filed a patent for a graphical calculator to be used in solving problems in power lines.
6. Speaking about times of war, Joan Clarke was a cryptographer who worked with her friend, Alan Turing, on the Enigma machine.
7. We will pay more attention to the last two, but not least, women – Grace Hopper and Margaret Hamilton.

Let’s turn now to Ada Lovelace. She had a passion and gift for mathematics from a young age. She is credited with being the [**world's first computer programmer**](https://www.biography.com/scholars-educators/ada-lovelace), as she drafted plans for how a machine called the Analytical Engine could perform computations. The machine, invented by her friend, mathematician and inventor Charles Babbage, is considered to be the first general computer. Lovelace detailed applications for the Analytical Engine that relate to how computers are used today. Lovelace is remembered annually on [Ada Lovelace Day](https://findingada.com/), held on the second Tuesday of October. And just as we all know, the Ada programming language was named after her.

American Grace Hopper was an admiral in the United States Navy and a computer scientist who was one of the first programmers for the Harvard Mark I computer, which was a general purposes electromechanical computer used in the war effort for World War II, according to the [San Diego Supercomputer Center](https://www.sdsc.edu/ScienceWomen/hopper.html). In 1944, she created a 500-page Manual of Operations for the Automatic Sequence-Controlled Calculator for the computer, which detailed the foundational operating principles of computing machines.

Hopper is also the inventor of the compiler, an intermediate program that translates English language instructions into the language of the target computer. This invention influenced other computing developments, like code optimization, subroutines, and formula translation. Hopper is remembered at the annual [Grace Hopper Celebration](https://ghc.anitab.org/), the world's largest gathering of women technologists.

Margaret Hamilton is an American computer scientist and systems engineer from Indiana who led the Software Engineering Division of the MIT Instrumentation Laboratory. She is [**credited**](https://science.nasa.gov/people/margaret-hamilton/) with popularizing the term “[**software engineering**](https://nationalaviation.org/exhibit/1961-nasas-first-software-engineer/)” while working on software development for Apollo 11, the first spacecraft to successfully complete a mission that placed humans on the moon in 1969. Hamilton's insistence on thorough testing is credited with the mission's success and safety of its astronauts. The guidance software that Hamilton helped develop for Apollo was later adapted for use in Skylab, the space shuttle, and the first digital fly-by-wire systems in aircraft. Hamilton received the NASA Exceptional Space Act Award for technical and scientific contributions in 2003 and the Presidential Medal of Freedom award in 2016.

In conclusion, the contributions of women to the field of computer science are undeniable and far-reaching. Their ingenuity, creativity, and perseverance have propelled the field forward, shaping the technologies we rely on today. However, it's important to acknowledge that historical barriers and systemic biases have often hindered women's full participation and recognition in the field. Despite these challenges, women continue to break barriers and make invaluable contributions to computer science.

While we celebrate the achievements of women in computer science, it's essential to recognize that systemic biases and gender disparities persist in the industry. Addressing these issues and promoting diversity and inclusion are crucial steps toward ensuring that all individuals, regardless of gender, have equal opportunities to contribute to and benefit from the field of computer science.

Thank you for your attention. I welcome any questions or discussions on this important topic.