Babbage

FATHER

OF
THE

COMPUTER_

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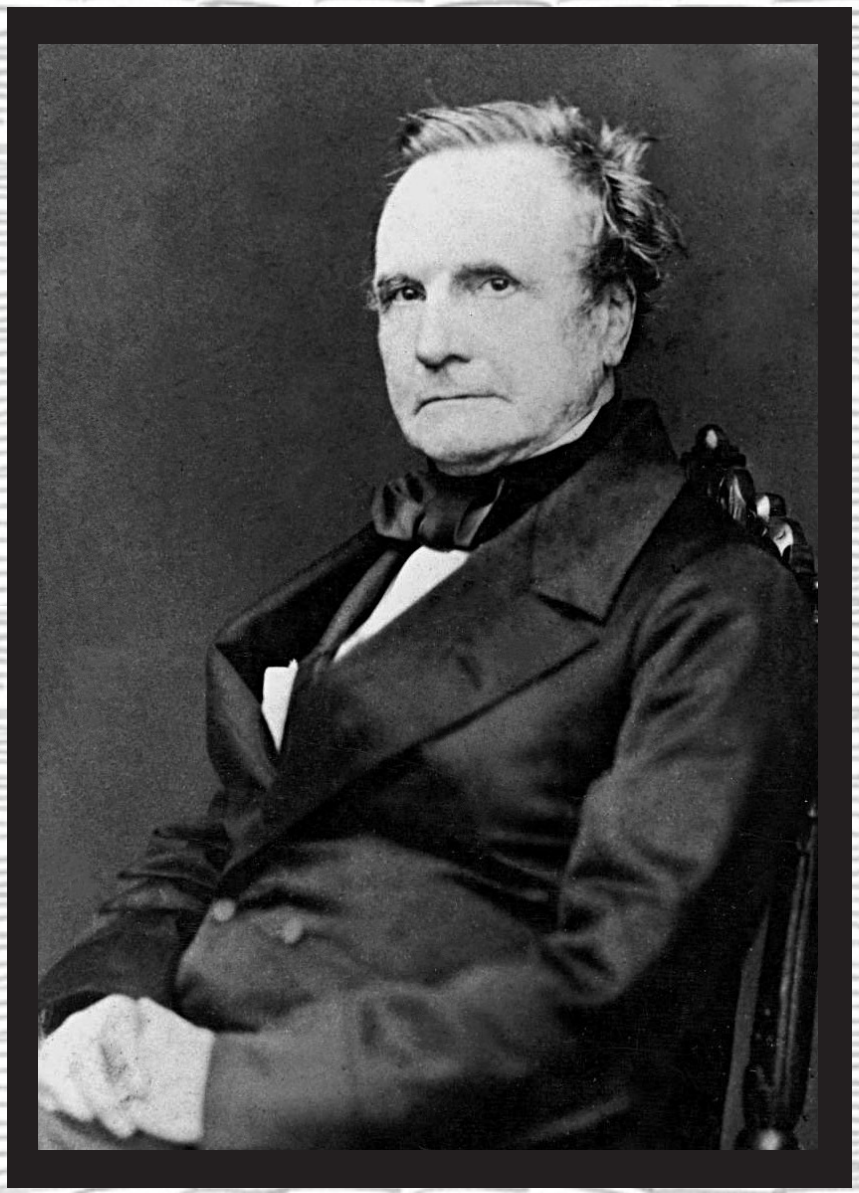
"The first steps in the path of discovery, and the first approximate measures, are those which add most to the existing knowledge of mankind."

~ Charles Babbage



CHARLES BABBAGE

Charles Babbage was a mathematician, philosopher and mechanical engineer in the 19th century. He is most well known for his "Difference Engine", a machine built to compute the values of polynomial functions without the use of multiplication or division. After this, Babbage would go on to create the "Analytical Engine" a series of machines that would calculate data and output them on punch cards. This machine would carry traits that modern computers and code still employ, such as sequential control, branching and looping. This would make Babbage the first person to create a mechanical computer; as such he is known as the

"father of the computer"

Because of Babbage

Common commodities that we take advantage of today are the result of this Babbage's initial Difference and Analytical Engine Designs.

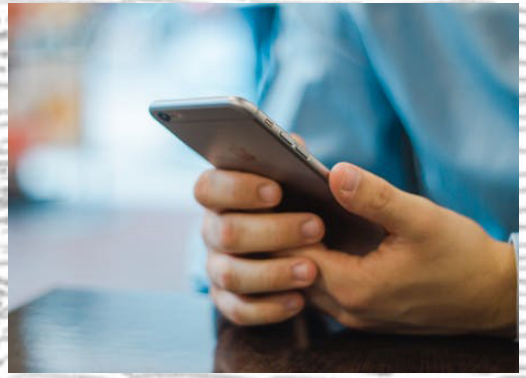
Items such as our phones, laptops, calculator, etc.

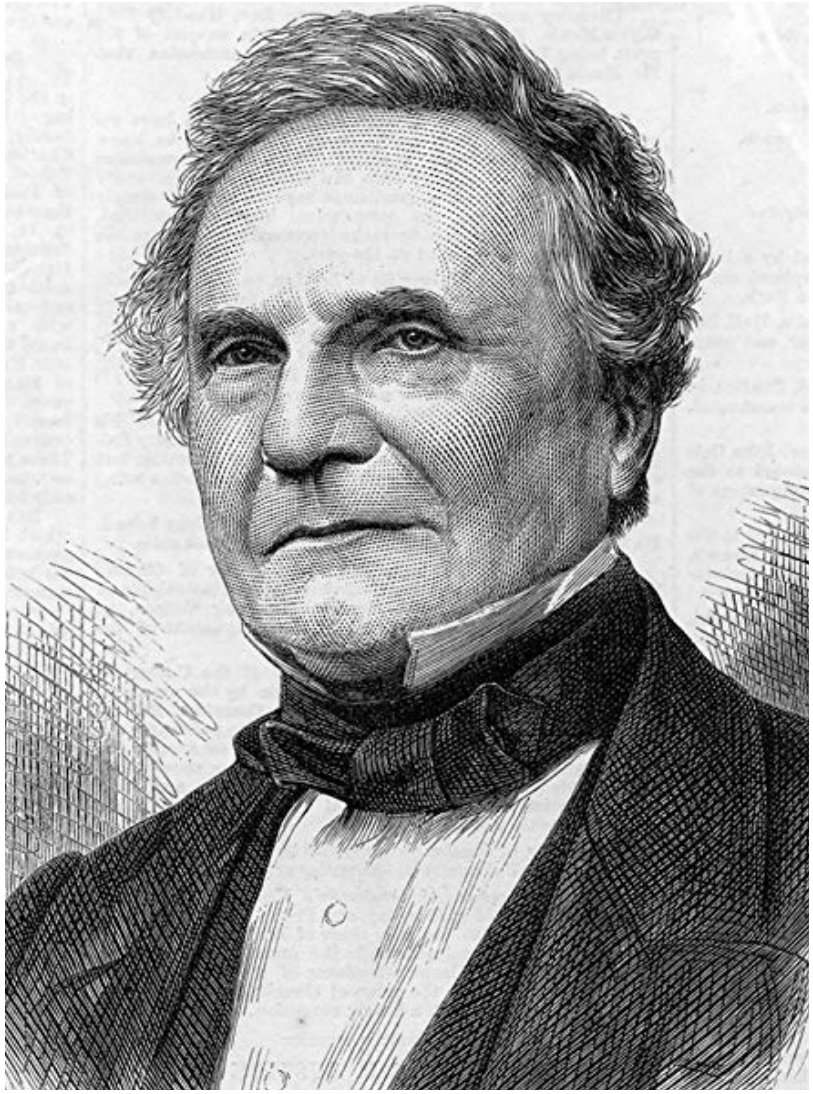
Any item with a motherboard is a descendant of Babbage's original designs.

Machines used in hospitals, the computers aboard satellites that allow for GPS, bluetooth speakers, many new car interfaces, etc.

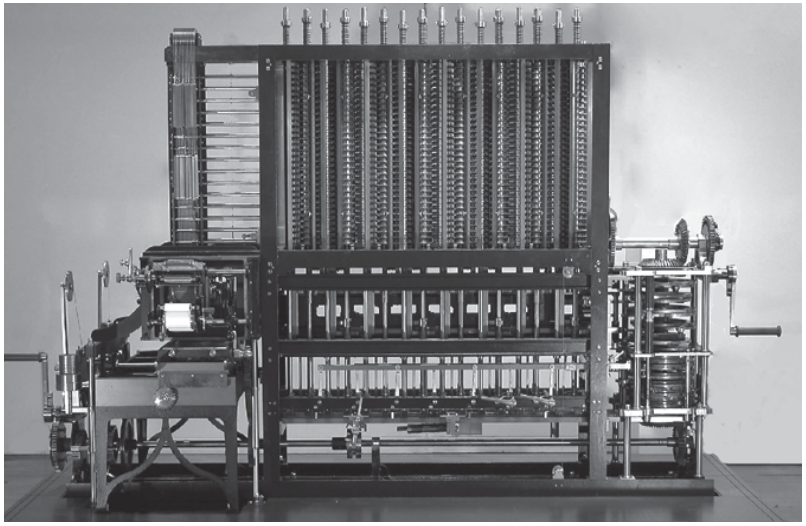
Our world is enveloped in items that use computer systems in one form or another and it has led to the saving of lives, the embarkment of humans into space, the interconnectedness of diverse peoples and places, and sheer convenience in daily life.

The legacy of the computer and its **"father"** lives on all around us.

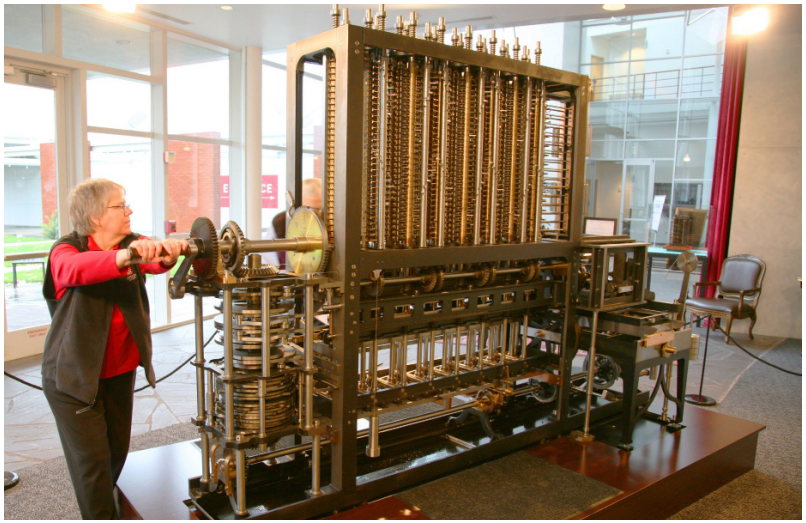




"At each increase of knowledge, as well as on the contrivance of every new tool, human labour becomes abridged."



The Difference Engine No.2



Difference Engine No. 2, built from original drawings, consists of 8,000 parts, weighs five tons, and measures 11 feet long.

In order to appreciate the technology we have today, we must look back and commemorate the person who kickstarted our civilizations rapid technological growth, and just as important to not forget that it wasn't the sole effort of one man who created what we have today, but a cumulative effort that has crossed generations, with hundreds of participants.

An effort that is still continuing today.

"As soon as an Analytical Engine exists, it will neccessarily guide the future course of science."

~ Charles Babbage

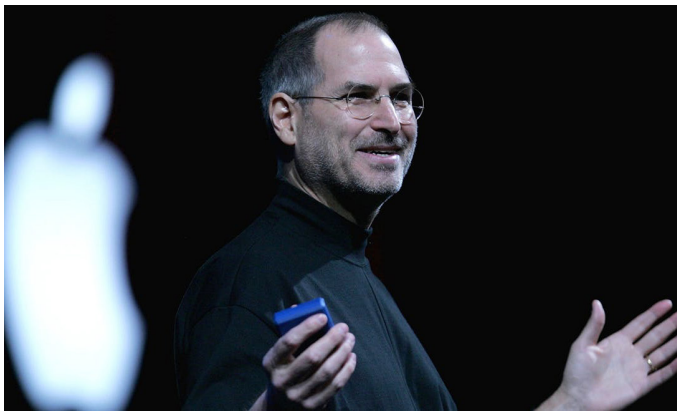
The Difference Engine

The Difference Engines were designed to calculate and tabulate polynomial functions. These behemoth machines calculated a series of values and printed results automatically in a table. Attached to the machine were printing apparatuses that would print to out all the calculated data on punch cards.

The Difference Engine No. 1 would be the first complete design for an automatic calculating engine.

The Analytical Engine

A new Engine Babbage had begun to work on after the initial Difference Engine; The Analytical Engine introduced many essential features found in the modern digital computers. It was programmable using punched cards, to input and print out data. This Engine also had a storage system to keep numbers and intermediate results could be held, and a separate milling section where the arithmetic processing was performed. It could complete four arithmetical functions and could perform direct multiplication and division. It was also capable of functions for which are common among modern computers: conditional branching, looping (iteration), microprogramming, parallel processing, iteration, latching, polling, and pulse-shaping.



Steve Jobs

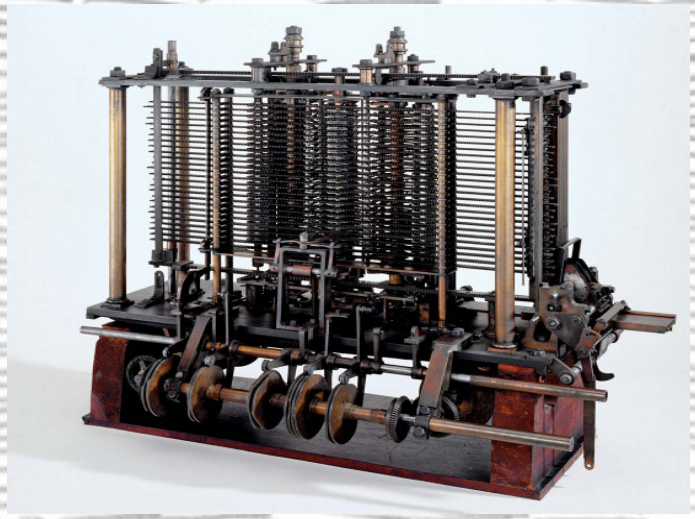
Bill Gates

A Legacy Built Upon

After the initial creation and plans for Babbage's Engines, the computer continued to evolve and perform greater feats, but it wasn't by Charles' doing.

Many new people came along to revolutionize the system and the way we use these machines that Charles pioneered. People such as Steve Jobs would go on to sell home computers pre-built, revolutionize the cell phone industry, and make us rethink the possibilities of the systems we use.

Bill Gates would found Microsoft, to add a user friendly interface to make computers more accessible and easier to use. Without this popular interface, computers would just be screens of data after inputted commands and never become as wide spread as they did.



The Analytical Engine

A Modern Motherboard

Punchcards used in Engine

The Concept

The monument is meant to enshrine Babbage's original Difference Engine design in metal, giving people the feeling that it was the original and that it is old. Along with this, the implementation of new technology into the piece is vital to show how the computer has since evolved. To do this the monument makes use of augmented reality. Through the use of an app on your phone, or at one of the kiosks surrounding the statue, you can point the camera on your phone at the monument and see staggering holograms that track the development of the computer through history. A slideshow of important figures, including speeches and key moments from history, are shown on repeat. This pays respect to not only Babbage but all others involved, enshrining the starting point of the computer, but also showing that the growth has yet to finish.

Peterson Hall, George Mason University

Downtown San Hose, California

Location

The two locations for this monument are in:

The George Mason University Campus in Fairfax, Virginia in front of the newly built Peterson Building. This location has ample space for the monument because of the buildings crescent shape and outdoor courtyard, where the monument would be on full display. As well as adhering to Babbage's desire for science to improve through the use of his work.

Downtown San Hose, California, a piece of a the northern strip of California the birthplace of the Silicon Valley. Placed here to commemorate the technological advances that have occurred in the valley, mainly due to the rise in computer technologies.

QR CODE HERE

SCAN CODE HERE WITH CAMERA ON PHONE TO DOWNLOAD FREE APP AND EXPERINCE THE MONUMENT IN FULL

Mock Sketch Up of what the monument would look like once installed