Cross Talk
CROSSROADS Language Studio's Newsletter March, 2015

Who Invented the Computer?

The answer is an Englishman, Charles Babbage, but the most surprising part of the story is *when* he did it.

"The father of the computer" was born in London in 1791. He was a mathematical genius and a talented inventor.

In the 1820's, while teaching mathematics at Cambridge University, he designed his first "difference engine"; a mechanical device that could perform mathematical calculations.

Babbage designed a second "difference engine" between 1846 and 1849 which contained processors (he called them "mills"), control units, a memory (he called it a "store") and an input/output system; all essential parts of a modern computer!

As electricity had not yet become a usable source of power in Babbage's time, he designed his devices based on mechanical systems. As a result, the design of his second "difference engine" was big, very complicated and very expensive. Although he produced complete plans for it, he was not able to build it. Like Babbage, it was way ahead of its time.

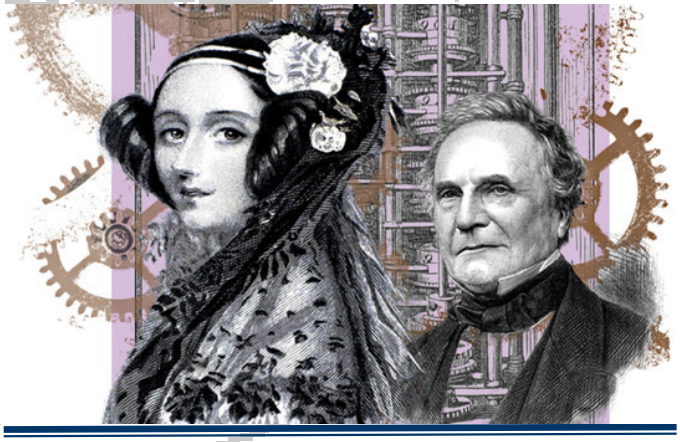
His second "difference engine" was finally built in 1991, almost 160 years after he designed it, by the Science Museum in London!

Between 1833 and 1842 Babbage worked on another, more complex invention he called an "analytical engine"; a device on which his fame as a computer pioneer now largely rests. He designed this machine to perform arithmetical calculations by using punch cards that would deliver instructions. It also had a memory unit to store numbers, and had other functions found in today's computers.

Like his second "difference engine", his "analytical engine" was too far ahead of its time to ever have been constructed in Babbage's lifetime. Indeed, the "analytical engine was completely groundbreaking; the world's first programmable computer.

But computers, as everyone knows, require software as well as hardware. Babbage's friend Ada Byron (Lovelace) is often credited with creating the first computer program or algorithm. On paper, she went further than anyone else in realizing that an "analytical engine" could go beyond the work of a mere calculator. This was the first ever concept of a modern computer. She understood that anything that could be converted into numbers – music, language (the alphabet), images – could be manipulated by computer algorithms.

At the time, Babbage and Byron had set off a revelation that would soon change how the world works. The rest, as they say, is history!



Net News

NET LESSONS: Too busy to come to CROSSROADS? …. Try our ***lessons through the net!***

SITE OF THE MONTH: You can find an image and a video of Babbage's engine working here: http://www.computerhistory.org/babbage/

Some Thoughts for the Month

Joshua Says: It's time again for our mid-semester survey. There will be a simple questionnaire to fill out that will cover the basics. Then Junko will be asking you about your lessons, your study plans and whether or not you feel like you are progressing. I'd like everyone to support this and to contribute frankly and positively towards helping us fine-tune your lessons and our study programs. And please do not be shy! Clear answers and opinions will go a long way to helping us all improve.

Junko Says: During the winter, we have neglected looking after our flower bed in front of the school building. Now March has come, we are going to plant some new flowers soon. I hope, by April, we'll have a nice little flower garden again that gives many people a little smile when they see it. If you have any recommendation for the kind of flowers we should plant, I'd be very interested to hear your ideas.

Mark Says: Already hay-fever season is upon us. In addition to myself, I seem to be surrounded by sniffling people with red glazed eyes. I've received a lot of advice on natural remedies I should try for my hay-fever, but like most natural remedies I've used over the years they just don't cut the mustard. I'm having to stick to my usual three pronged attack (Claratyne, nasal spray and eye-drops) which are finally working well for me.

Aaron Says: Along with my interests in history and science, I am also interested in wine. During my time at the University of Texas, I worked at a wine shop to make ends meet. I developed a real passion for all sorts of wine and spirits. My favorite wines are all from Europe, but my absolute favorites are from Spain. Do yourself a favor, and try some Spanish wines!

Danielle dit; Chers étudiants et étudiantes de Crossroads, j'ai beaucoup aimé mon expérience d'enseignement à vos côtés. J'ai beaucoup appris de nos conversations concernant vos voyages, l'art, le cinéma, la poésie française. J'espère que je vous aurai inspires à découvrir d'autres contrées francophones telles le Québec. J'ai été impressionnée par vos efforts en vue d'apprendre la langue française. Je vous remercie pour cela ! Ce n'est qu'un Au revoir. Bon courage et bonne chance!

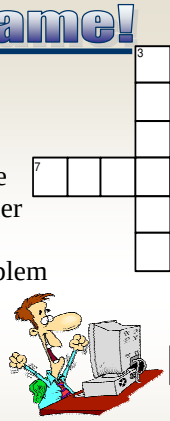
Play A Game!

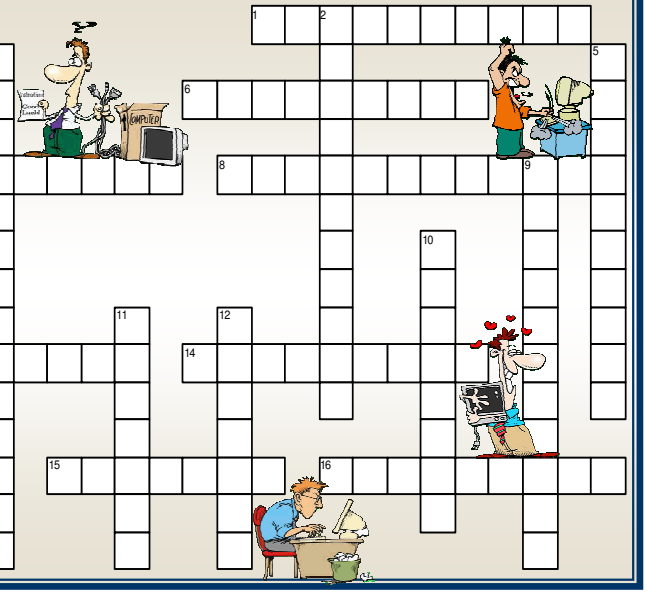
ACROSS

1 relating to machines
6 absolutely necessary
7 to control or influence
8 relating to math
13 an instrument used for a particular purpose
14 changed from one system or state to another
15 The first to achieve something
16 a precise rule showing how to solve a problem

DOWN

2 built
3 someone who has exceptional intelligence
4 something never done before
5 understanding by separating the whole into parts
9 not easy or simple
10 the first to think-up or make something
11 carry out an action
12 a theoretical idea





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