

Explain the significance of Babbage's calculating engine and the role of Ada Lovelace

Charles Babbage was an English Mathematician and Inventor in the 19th Century. He was most remembered for having conceived the first ever Automatic Digital Computer. He also came up with the idea of a 'Difference Engine.' This project was more complex than anything that had been done before with the memory unit being large enough to hold 1000 50-digit numbers. This was larger than the storage capacity of any computer built before 1960! This further shows the level of significance of his work and the degree to which it should be credited. This calculating machine was a breakthrough as it marked the beginning of computers and it was the first time in which you could achieve results without mental effort. It attempted to stimulate human thought and was the initial beginnings of Artificial Intelligence.

Ada Lovelace was the first person to write about and fully understand how Babbage's machine actually worked. She realized that it can only think what we program it to and not just think anything, like humans can. She translated a French paper about the Analytical Engine and in her annotations included how it could perform a sequence of calculations so has been named the first computer programmer. This led the early programming language to be named after her and the second Tuesday in October to be the 'Ada Lovelace Day' to remember her contributions and commemorate women in Science, Technology, Engineering and Mathematics.

I also found it interesting that Babbage's Analytical Machine was never actually completed and his design was forgotten. It was only until after he died when his unpublished notebooks were discovered in 1937 that his machine got completed.