

Handout 52. The History of Computer Science: text selection 3

<p>Grace Murray Hopper (1906-1992) was an American mathematician. In 1951, she improved how dialogues function between humans and machines. The computer at that time only obeyed programs in “machine language” (called assembly language). Grace created one of the first compilers, A0-system, which translated a programming language close to English into assembly language.</p>	<p>Alan Turing (1912-1954) was a British mathematician and computer scientist. In the 1930s, he invented a theoretical model for a computing machine, with a calculator and memory where the program and data to be processed were stored. He was also famous for helping break the Enigma code during the Second World War. German military messages, encrypted with 159 trillion possibilities, could then be decrypted in 20 minutes.</p>
<p>Augusta Ada King, Countess of Lovelace (1815-1852), was a British mathematician. In 1833, Ada Lovelace met Charles Babbage and discovered his analytical engine. Where Babbage saw a reconfigurable calculator, Ada saw the potential for the first programmable computer. She wrote the first programs in 1843, for mathematics and also to compose music.</p>	<p>Al Khwarizmi (~780-~850) was a Persian scholar. In “The House of Wisdom” in Baghdad, founded by the Caliph Al-Ma’mun (813-833), he studied geometry and astronomy. In his work “<i>Kitâb al-jabr wa al-muqâbala</i>” (where the phonetic of “al-jabr” gave us the word for “algebra”), Al Khwarizmi systematizes decimal notation and algorithms which describe the methods for everyday calculations (addition, multiplication, etc.).</p>