Outstanding American Scientists of 19-20th centuries

In 20th century, the humanity experienced a rise in science. Life duration increased twice compared to 19th century. Earth population was over 6 billion people in 1999: 6 times compared to this in 1820. Life quality has gone up countless times with the invention of the new technologies. All of this has been achieved thanks to handwork of many scientists. But in this text, I’ll focus on the ones directly related to my field of interest, which is computer science and computer programming.

The very first computer, the Mark I, was designed by Howard Aiken in 1937. He came up with the idea of a machine that could solve the differential equations, which he encountered a lot in his scientific area, physics. In 1944, the construction of the machine has been finished. Aiken later built Mark II, III and IV, with the construction becoming more and more electronic-based.

However, these all used machine code as their programming language. Writing programs in machine code isn’t easy and fast, so it became necessary to replace it with something. This task has been solved by John Mauchly in 1949. Mauchly invented Short Code, the first programming language, which represented mathematical expressions in more understandable and simple form than machine code.

The next milestone in computer programming is when Dennis Ritchie developed the C language, lingua franca of today’s computer programming. Pretty much every popular language is based on C. In 1973, UNIX operating systems family was presented by AT&T Bell Labs, where Ritchie worked. Linux, BSD and even Apple OS X are variations of UNIX.

But there’s no cause time without fun time: in 1961 the first videogame ever, named “Spacewar!”, was developed by a group of MIT students for the PDP-1 mainframe. “Spacewar!” was also the first multiplayer computer game ever.

The computer science evolves quickly. Computing powers are doubling every year. In 1981 Bill Gates said that 640 kilobytes of RAM is enough for everyone, today you won’t surprise anyone by having 32 gigabytes (that’s a million times more). But without these scientists, there wouldn’t be anything we have today: no PCs without Mark I and no Mark I without Howard Aiken. No C++ language without ShortCode and no ShortCode without John Mauchley. No “Counter-Strike” without “Spacewar!”. No Linux without UNIX.

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