**History of computers  
Fifth Generation Computer Systems [Present -beyond]**

(FGCS) was an initiative by Japan's [Ministry of International Trade and Industry](https://en.wikipedia.org/wiki/Ministry_of_International_Trade_and_Industry), begun in 1982, to create a computer using [massively parallel computing](https://en.wikipedia.org/wiki/Massively_parallel_computing)/processing. It was to be the result of a massive government/industry research project in Japan during the 1980s. It aimed to create an "epoch-making computer" with supercomputer-like performance and to provide a platform for future developments in [artificial intelligence](https://en.wikipedia.org/wiki/Artificial_intelligence). There was also an unrelated Russian project also named as a fifth-generation computer n the late 1960s till the early 1970s, there was much talk about "generations" of computer hardware — usually "three generations".

1. First generation: Thermionic vacuum tubes. Mid-1940s. IBM pioneered the arrangement of vacuum tubes in pluggable modules. The [IBM 650](https://en.wikipedia.org/wiki/IBM_650) was a first-generation computer.
2. Second generation: Transistors. 1956. The era of miniaturization begins. Transistors are much smaller than vacuum tubes, draw less power, and generate less heat. Discrete transistors are soldered to circuit boards, with interconnections accomplished by stencil-screened conductive patterns on the reverse side. The [IBM 7090](https://en.wikipedia.org/wiki/IBM_7090) was a second-generation computer.
3. Third generation: Integrated circuits (silicon chips containing multiple transistors). 1964. A pioneering example is the ACPX module used in the IBM 360/91, which, by stacking layers of silicon over a ceramic substrate, accommodated over 20 transistors per chip; the chips could be packed together onto a circuit board to achieve unheard-of logic densities. The IBM 360/91 was a hybrid second- and third-generation computer.

Omitted from this taxonomy is the "zeroth-generation" computer based on metal gears (such as the [IBM 407](https://en.wikipedia.org/wiki/IBM_407)) or mechanical relays (such as the Mark I), and the post-third-generation computers based on Very Large Scale Integrated ([VLSI](https://en.wikipedia.org/wiki/VLSI)) circuits.

There was also a parallel set of generations for software:

1. [First generation](https://en.wikipedia.org/wiki/First-generation_programming_language): [Machine language](https://en.wikipedia.org/wiki/Machine_language).
2. [Second generation](https://en.wikipedia.org/wiki/Second-generation_programming_language): [Low-level programming languages](https://en.wikipedia.org/wiki/Low-level_programming_language) such as [Assembly language](https://en.wikipedia.org/wiki/Assembly_language).
3. [Third generation](https://en.wikipedia.org/wiki/Third-generation_programming_language): Structured [high-level programming languages](https://en.wikipedia.org/wiki/High-level_programming_language) such as [C](https://en.wikipedia.org/wiki/C_(programming_language)), [COBOL](https://en.wikipedia.org/wiki/COBOL) and [FORTRAN](https://en.wikipedia.org/wiki/FORTRAN).
4. [Fourth generation](https://en.wikipedia.org/wiki/Fourth-generation_programming_language): Domain-specific [high-level programming languages](https://en.wikipedia.org/wiki/High-level_programming_language) such as [SQL](https://en.wikipedia.org/wiki/SQL) (for [database](https://en.wikipedia.org/wiki/Database) access) and [TeX](https://en.wikipedia.org/wiki/TeX" \o "TeX) (for text formatting)

the examples of fifth generations computer is **robots** 