Generations of Computers

The history of computer development is often devided into different generations of computing devices. Each of the six generations of computers is characterized by a technological development that fundamentally changed computers , resulting in smaller, cheaper, more powerful and more efficient and reliable computing devices. New discoveries are constantly being developed, that affect the way we live, work and play.  
 First generation (1940-1956): vacuum tubes. The first computers used vacuum tubes and were often enormous, taking up entire rooms. They were very expensive in exploited and they used a lot of electricity, generated a lot of heat, which was often the cause of trouble. First generation computers relied on machine language, the lowest-level programming language understood by computers, to perform operations, and they could only solve one problem at a time. Input was based on punched cards and paper tape. The UNIVAC and ENIAC computers are the examples of the first-generation computing devices.

Second generation (1956-1963): transistors. Transistors replaced vacuum tubes . The transistor was invented in 1947 but use in computers only in the late 1950s. The transistor, allowed computers to become smaller, faster, cheaper, more reliable. Second-generation computers moved to assembly languages, which allowed programmers to use words in instructions. High-level programming languages were also being developed at this time, such as the early versions FORTRAN. The first computers of this generation were developed for the atomic energy industry.

Third generation (1964-1971): integrated circuits. Transistors were miniaturized and placed on silicon chips, called semiconductors, which increased the speed and efficiency of computers. Users interacted with the third generation computers through keyboards and monitors and interfaced with an operating system, which allowed the device to run many different applications at one time with a central program. Computers for the first time became available to a mass audience because they were smaller and cheaper.

Fourth generation (1971-1982): microprocessors. In computers of this generation thousands of integrated circuits were built onto a single silicon chip. The Intel 4004 chip, developed in 1971, located all the components of the computer – from the central processing unit and memory to input/output controls – on a single chip. In 1981 IBM introduced its first computer for the home user, and in 1984 Apple introduced the Macintosh. The computer languages like C, C++ are used in this generation to perform different operations. As these small computers became more powerful, they could be linked together to form networks, which eventually led to the development of the Internet.

Now we use the Fifth Generation of Computers which were started around 1982. These generation computers use the high level of languages like Perl, Python, C, JAVA, etc.

It introduces the laptops, notebooks, PC’s, desktops, and other gadgets. These computers are based on Artificial Intelligence. The fifth-generation computers perform the parallel processing with fast results. In this generation of the computers, the new languages are introduced like object-oriented languages like C++, JAVA, etc. The new operating systems are developed MS Window, Linux; Example of fifth generation computers are Notebook, Laptop, Desktop, Ultrabook, Chromebook, and many more.  
 Advantages of Fifth Generation of Computers. The fifth generation of the computer is much faster than fourth generation of computers.These computers smaller and give fast results . Moreover, these computers are portable , you can carry the devices anywhere. Easy to use these portable devices. The fifth-generation computers introduce an improvement in Artificial Intelligence.  
 Sixth Generation of computers is different from, other generation computers in terms of size, speed and tasks that they perform. These computers are called intelligent computers based on artificial intelligence . Moreover, the sixth generation introduces the voice recognition which recognizes the words. By using the voice recognition, you can search and send the messages quickly and easily. Although people need to speak slowly and clearly to work properly.  
 In the military, the AI helps soldiers to solve different problems that appear in many situations around the world. In the automobile technology, robots are used for manufacturing.

Future Generation Computers may be neurons and attains the human level intelligence. We can think that computers are in cars or refrigerators. Whereas, you can operate the refrigerator with your phone or communicate with a light bulb. In fact, in the coming years, your light bulb will become the computer which performs operations and projects the information instead of light.