



# **EVOLUTION OF COMPUTER**

# What is a computer?



A computer is an electronic machine that accepts information (**Data**), processes it according to specific instructions, and provides the results as new information.



Computers in the form of personal desktop computers, laptops and tablets have become such an important part of everyday living that it can be difficult to remember a time when they did not exist. In reality, computers as they are known and used today are still relatively new. Although computers have technically been in use since the abacus approximately 5000 years ago, it is modern computers that have had the greatest and most profound effect on society. The first full-sized digital computer in history was developed in 1944. Called the Mark I, this computer was used only for calculations and weighed five tons. Despite its size and limited ability it was the first of many that would start off generations of computer development and growth.



## FIRST GENERATION COMPUTERS

FIRST GENERATION COMPUTERS BORE LITTLE RESEMBLANCE TO COMPUTERS OF TODAY, EITHER IN APPEARANCE OR PERFORMANCE. THE FIRST GENERATION OF COMPUTERS TOOK PLACE FROM 1940 TO 1956 AND WAS EXTREMELY LARGE IN SIZE. THE INNER WORKINGS OF THE COMPUTERS AT THAT TIME WERE UNSOPHISTICATED. THESE EARLY MACHINES REQUIRED MAGNETIC DRUMS FOR MEMORY AND VACUUM TUBES THAT WORKED AS SWITCHES AND AMPLIFIERS. IT WAS THE VACUUM TUBES THAT WERE MAINLY RESPONSIBLE FOR THE LARGE SIZE OF THE MACHINES AND THE MASSIVE AMOUNTS OF HEAT THAT THEY RELEASED. THESE COMPUTERS PRODUCED SO MUCH HEAT THAT THEY REGULARLY OVERHEATED DESPITE LARGE COOLING UNITS. FIRST GENERATION COMPUTERS ALSO USED A VERY BASIC PROGRAMMING LANGUAGE THAT IS REFERRED TO AS MACHINE LANGUAGE.



## SECOND GENERATION OF COMPUTERS

THE SECOND GENERATION (FROM 1956 TO 1963) OF COMPUTERS MANAGED TO DO AWAY WITH VACUUM TUBES IN LIEU OF TRANSISTORS. THIS ALLOWED THEM TO USE LESS ELECTRICITY AND GENERATE LESS HEAT. SECOND GENERATION COMPUTERS WERE ALSO SIGNIFICANTLY FASTER THAN THEIR PREDECESSORS.



## THIRD GENERATION COMPUTERS

FROM 1964 TO 1971 COMPUTERS WENT THROUGH A SIGNIFICANT CHANGE IN TERMS OF SPEED, COURTESY OF INTEGRATED CIRCUITS. INTEGRATED CIRCUITS, OR SEMICONDUCTOR CHIPS, WERE LARGE NUMBERS OF MINIATURE TRANSISTORS PACKED ON SILICON CHIPS. THIS NOT ONLY INCREASED THE SPEED OF COMPUTERS BUT ALSO MADE THEM SMALLER, MORE POWERFUL, AND LESS EXPENSIVE. IN ADDITION, INSTEAD OF THE PUNCH CARDS AND THE PRINTOUTS OF PREVIOUS SYSTEMS, KEYBOARDS AND MONITORS WERE NOW ALLOWING PEOPLE TO INTERACT WITH COMPUTING MACHINES.



## FOURTH GENERATION COMPUTERS

THE CHANGES WITH THE GREATEST IMPACT OCCURRED IN THE YEARS FROM 1971 TO 2010. DURING THIS TIME TECHNOLOGY DEVELOPED TO A POINT WHERE MANUFACTURERS COULD PLACE MILLIONS OF TRANSISTORS ON A SINGLE CIRCUIT CHIP. THIS WAS CALLED MONOLITHIC INTEGRATED CIRCUIT TECHNOLOGY. IT ALSO HERALDED THE INVENTION OF THE INTEL 4004 CHIP WHICH WAS THE FIRST MICROPROCESSOR TO BECOME COMMERCIALY AVAILABLE IN 1971. THIS INVENTION LED TO THE DAWN OF THE PERSONAL COMPUTER INDUSTRY. BY THE MID-70S, PERSONAL COMPUTERS SUCH AS THE ALTAIR 8800 BECAME AVAILABLE TO THE PUBLIC IN THE FORM OF KITS AND REQUIRED ASSEMBLY. BY THE LATE 70S AND EARLY 80S ASSEMBLED PERSONAL COMPUTERS FOR HOME USE, SUCH AS THE COMMODORE PET, APPLE II AND THE FIRST IBM COMPUTER, WERE MAKING THEIR WAY ONTO THE MARKET.





## THE FIFTH GENERATION OF COMPUTERS

IN THE FUTURE, COMPUTER USERS CAN EXPECT EVEN FASTER AND MORE ADVANCED COMPUTER TECHNOLOGY. COMPUTERS CONTINUE TO DEVELOP INTO ADVANCED FORMS OF TECHNOLOGY. FIFTH GENERATION COMPUTING HAS YET TO BE TRULY DEFINED, AS THERE ARE NUMEROUS PATHS THAT TECHNOLOGY IS TAKING TOWARD THE FUTURE OF COMPUTER DEVELOPMENT. FOR INSTANCE, RESEARCH IS ONGOING IN THE FIELDS OF NANOTECHNOLOGY, ARTIFICIAL INTELLIGENCE, AS WELL AS QUANTUM COMPUTATION.



*Fifth generation computers are in designing mode  
with Artificial Intelligence technology.*





THE END  
THANK YOU FOR  
ATTENTION

