History of Computers

Calculating Tools			
Date	**Invention**	**Inventor**	**Use**
≈ 1000 – 500 BCE	Abacus	Mesopotamians	Used by merchants to do some basic arithmetic but it was also used to keep track trading transactions.
≈ 600 – 1000 ADE	Quipu	Incas	Similar to abacus but uses string and knots instead of beads and generally more permanent compared to abacus.
1617	Napier's Bones	John Napier	Uses a rack and bones to calculate products and quotient of large numbers based on John Napier's discovery of logarithms
1622–1625	Slide Rule	• Edmund Gunter • William Oughtred • Amedee Manheim	Also based on the discovery of logarithms but unlike previous device it uses distance at intervals proportionate to their log values which can be used in multiplication and division but is greatly dependent on manufacturing tolerances.

Mechanical Calculator			
Date	**Invention**	**Inventor**	**Use**
1642	Pascaline	Blaise Pascal	It is a numerical wheel calculator invented by Blaise Pascal to aid his father's work as tax collector which perform addition, subtraction, and multiplication trough repeated addition up to 8 digits.
1674	Stepped Reckoner	Gottfried Wilhem von Leibniz	Similar to the Pascaline it is also a numerical wheel calculator but unlike it it can perform more operations such as multiplication, division, and square roots.
1801	Programmable Loom	Joseph Jacquard	Use punch card to weaved patterns in fabric and is considered as the first programmable mechanical machine.
1822	Difference Engine	Charles Babbage	It is a mechanical calculator for determining polynomial values but can also be used for other functions that can be approximated using Taylor sereis.
1906	Analytical Engine	• Henry Babbage • Ada Lovelace	It is a mechanical computer that had a memory, processor, and a program with this Countess Ada Lovelace developed programming techniques of subroutines, loops, and jumps, as a result she is often regarded as the first programmer.

Electro-Mechanical Computers			
Date	**Invention**	**Inventor**	**Use**
1930	Differential Analyzer	Vannevar Bush	It is an analog electromechanical computer capable of computing integrals and derivatives
1939	Z2	Kanrad Zuse	Similar to the analytical engine but utilizes electro-mechanical binary switching relays instead of gears utilising base10 representation.
1941	Bombe	Alan Turing	It is an electro-mechanical computer used to crack German codes encrypted by the ENIGMA machine
1943	Harvard Mark I,	Howard Aiken	It is an programmable electro-mechanical computer and was used for many project by Harvard and the US navy.
1943	ENIAC	• J. Presper Eckert • John Mauchly	It is the first general purpose electronic programmable computer which uses vacuum tubes and was used in the Manhattan project.
1945	EDVAC	• J. Presper Eckert • John Mauchly	It is the successor of the ENIAC and also quite resembles the Von Neumann architecture which is still wildly used today.
1951	UNIVAC	• J. Presper Eckert • John Mauchly	It is the first computer used for business application.
1954	TRADIC	Bell Labs	It is the first fully transistorized computer.

Personal Computers			
Date	**Invention**	**Inventor**	**Use**
1975	Altair 8800	MITS	It is considered as the first microcomputer kit and personal computer.
1976	Apple I	• Steve Wozniak • Steve Jobs	It is the first computer with a single-circuit port and built-in video output port
1984	Macintosh	Apple	The first computer with successful mouse-driven graphical user interface
2007	iPhone 1	Apple	It aimed to bring the capabilities and feature of a computer into mobile form factor.

Quantum Computer			
Date	**Invention**	**Inventor**	**Use**
2019	Quantum System One	IBM	First integrated quantum computer system that can be accessed trough the cloud.
2019	Sycamore	Google	The first quantum computer that controversially claim to achieve quantum supremacy

References

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