**COMSATS University Islamabad**

**Lahore Campus**

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**DEPARTMENT OF COMPUTER SCIENCE**

**INTRODUCTION TO COMP TECHNOLOGY**

**ASSIGMENT 1**

Submitted by:

**BUSHRA JABBAR**

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Assignment # 1

# Q1: Write down the Basic features or functionality of the Some Well Known Early computers.

## The Mark I Computer (1937-44):

This was the first digital computer that was built and setup in the US by the IBM Corporation (International Business Machines Corporation). An American Physicist H. H. Aiken of Harvard University, Massachusetts was the original conceptual designer behind it.

The machine was made up of over 750,000 components and weighed 5 tons. It was mainly used for making scientific calculations in the department of ship design and also in field of ballistics.

## The Atanasoff-Berry Computer (1939-42):

The ABC (Atanasoff-Berry Computer) was built by Atanasoff and Berry in the basement of the physics building at Iowa State College.  Atanasoff was looking to increase the accuracy and speed of scientific calculations through an electronic digital computer. This effort resulted in the ABC. The two main objectives behind creating it were to achieve capacitors to store data in form and electronic circuits to perform operations of addition and subtraction.  The ABC machine was consisted on three main parts including arithmetic unit, storage device and input/output unit.

## The ENIAC (1943-46):

ENIAC stands for Electronic Numerical Integrator And Computer. It was the first large scale computer to run at electronic speed without being slowed down by any mechanical parts and also the first programmable general purpose electronic computer invented by J. Presper Eckert and John Mauchly .

The machine contained 19,000 vacuum tubes, 1500 relays, and several hundred thousand resistors, capacitors, and conductors.

## The EDVAC (1946-52):

EDVAC (Electronic Discrete Variable Automatic Computer) was a binary serial main frame computer whose design was proposed by John von Neumann in 1945 and it was built in 1940s. Like the ENIAC, the EDVAC was also built for the U.S. Army's Ballistics Research Laboratory and was able of automatic addition, subtraction, multiplication, programmed division and automatic checking with an ultrasonic serial memory.

The machine consisted of four components including the mill, the store, the reader, and the printer.

## The EDSAC (1947-49):

The Electronic Delay Storage Automatic Calculator (EDSAC) was built by a team lead by the late Professor Sir Maurice Wilkes and was originally designed for radar display. It was a large scale electronic calculating machine which used ultrasonic delay units for storage of orders and numbers.

Input was through a five-hole punched tape and output was viewed on a teleprinter.It used mercury delay lines for memory and derated vacuum tubes for logic. Power consumption was 11 kW of electricity.

## Manchester Mark I (1948):

Manchester Mark I being the first commercially available general purpose computer that was able to run a stored program was built at the Victoria University of Manchester, England by Ferranti Inc. Its two major features included: to become a two level store and instruction modification registers.

It consisted of four basic elements like any typical computer including: input-output equipment, main memory, control unit, arithmetic and logic unit.

## The UNIVAC I (1951):

UNIVAC (Universal Automatic Computer) was developed by a team of engineers led by J. Presper Eckert and John Mauchly. It was the first commercially made computer for business and administrative uses for the civilians. The main purpose behind it was to replace the punched-card accounting machines with magnetic tapes.

It was among the very first “stored program” computers that used an operator keyboard and console typewriter for simple input and magnetic tape for all other kind of input and output.