

# ICT-1

Accuracy:

Abacus:

Napier's Bone:

John Napier

Slide Rule:

William

Issac

Oughtred

Newton



History

Generation

Classification

Accuracy + Speed:

① ② ③ Gear System

Pascaline:

Wheel

1st Mechanical Calculator

Blaise Pascal

Stepped Reckoner:

Leibniz

→ Calculus

Newton

→

Arithmometer:

Thomas de Colmar

① Class Lec

② र

③ Previous Questions

Father of Computer → Charles

Babbage

1st Programmer

1822 → Difference Engine

↓  
Ada Augusta  
Byron

1833 → Analytical Engine

Father of Modern Computer → John

~ (Neumann Architecture) von Neumann

Mark-1:

Howard Aiken, IBM

International  
Business  
Machine  
→ Big Blue

Inventor of Computer

1st → Electro-Mechanical Computer

ABC → Atanasoff Berry Computer

1st Electrical

Vacuum Tube

Electrical → Conductor

Electronic → Semiconductor

ENIAC: Electronic Numerical

Si, Ge

Integrator And Computer

1st Electronic

John Mauchly, Presper Eckert

EDVAC: Electronic Discrete Variable Automatic Computer

1st → Neumann Architecture

UNIVAC: Universal Automatic Computer  
1st Commercial

EDSAC: <sup>(57)</sup> Electronic Delay  
<sup>(25)</sup>  
Storage Automatic Calculator

Maurice Wilkis

27th BCS

Stored program →

Mercury  
Delay Lines

Simulation

1G  
- 1958)

Processor: Tube  
Vacuum  
ABC

Memory/  
Storage:  
magnetic  
Drum

2G  
(1959-1964)

Transistor  
↓  
TXO

Magnetic  
Core  
(HDD)

3G  
(1965-1970)

IC → B2500  
→ B3500  
→ IBM360  
SSI, MSI

Magnetic  
Tape

Nu. of Transistor in IC

4G  
1971-pre

Micro-processor  
↓  
Altair  
LSI 8800  
VLSI

Semiconductor  
Memory (and)  
SSD

Exponential

5G  
Future  
SVLSI,  
↓  
Super

AI  
IoT

Data Science  
Big Data

# Classification

## Input-Output

- i) Analog: I: A, O: A
- ii) Digital: I: D, O: D
- iii) Hybrid: I: A, O: D

## Size, Speed, power

- i) Super: Seymour Cray  
CDC 6600
- ii) Mainframe: Gene Amdahl  
IBM 1620  
Mark-1
- iii) Mini: Ken Thompson  
PDP-8  
PDP-1
- iv) Micro: Edward R. Epp  
Altair 8800

Inter connection

HCI

Hi Hello

Interaction

Software  
Data

Application
✓ Presentation
Session
<u>Transport</u>
Network
Data Link
Physical

Human Computer  
 ଉପର ଭାଗରୁ  
 Virtual Connection  
~~TCP~~  
~~UDP~~  
 Easiest & fastest route  
 Error Detection  
 Physical Connection

App 7
✓ P 6
S 5
T 4
Net. 3
D.L 2
Phy 1

Sniffing

Denial of Service (DOS)

Segment  
Packet  
Frame  
bit



Representation

Encryption -> Lock  
Decryption -> Unlock

Man-In-The-Middle (MITM)