INFORMATION TECHNOLOGY

OBJECTIVE

Outline the history of Information Technology.
- *Brief history of computer hardware and software, Internet and telecommunications; categories by size, cost, and processing ability.*
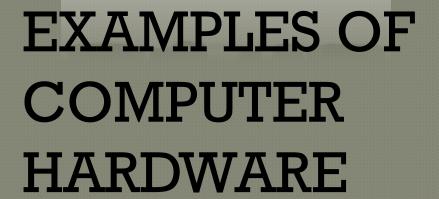
Introduction

Information technology has been around for a long, long time. Basically as long as people have been around, information technology has been around because there were always ways of communicating through technology available at that point in time. There are 4 main ages that divide up the history of information technology. Only the latest age (electronic) and some of the electromechanical age really affects us today, but it is important to learn about how we got to the point we are at with technology today.

COMPUTER HARDWARE

Computer hardware refers to all the physical components of the computer. Some examples are motherboard, keyboard, mouse, speakers etc.

EXAMPLES OF COMPUTER HARDWARE

Brief History of Computer Hardware

There are five different generations of computers. The five generations are:

1. First Generation
2. Second Generation
3. Third Generation
4. Fourth Generation
5. Fifth Generation

FIRST GENERATION COMPUTERS

1946-1959

- Large and limited to basic calculation
- Punch cards, paper tape, and magnetic tape were used to enter data into these computers.
- Computers back then were rented for around $16,000/month.
- These computers were unreliable because they would always heat up and shut down

SECOND GENERATION COMPUTERS

1959-1965

- They used transistors instead of vacuum tubes. It made the computers more compact.
- Primary memory was stored on magnetic tape and magnetic disks were used as secondary storage
- It has a slightly faster core memory
- Cost around $85,000

Third Generation Computers

1965 – 1971

- Integrated circuits was introduced by Jack Kilby. The size of computers were now decreased by a lot.
- The input language for these types of computers were PASCAL and BASIC. This enabled the computers to perform more complex calculations.
- The rental price for a machine was around $5000 and to purchase a machine around this time was

Fourth Generation Computers

1971 – 1980

- These computers used the VLSI technology or the Very Large Scale Integrated (VLSI) circuits technology or as they were known as microprocessors.
- First generation of supercomputers and personal computers were developed.
- These computers were able to perform many calculations accurately.
- They were used in networking
- Input languages included: C+, C++ and DBASE
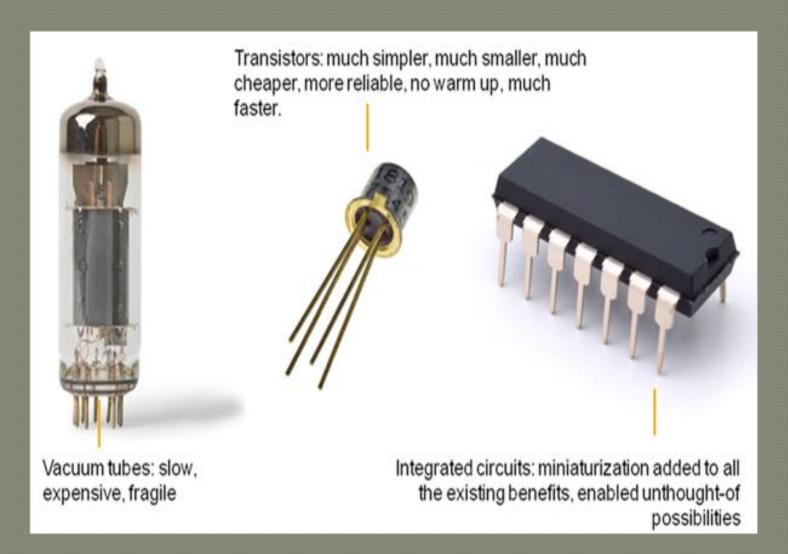
FIFTH GENERATION COMPUTERS

1981-present
- Use high-level languages like Python, R, C#, Java etc.
- Wide range of processors are developed. The two most notable are Intel and AMD.
- Prices may vary on what whether a person wants to buy a laptop or a desktop
- If a person wishes to build a computer there are many parts available and for different prices

Processors Over the Years

Transistors: much simpler, much smaller, much cheaper, more reliable, no warm up, much faster.

Vacuum tubes: slow, expensive, fragile

Integrated circuits: miniaturization added to all the existing benefits, enabled unthought-of possibilities

COMPUTER SOFTWARE

Computer software is a set of instructions and associated documentation that tells a computer what to do or how to perform a task. They can be categorized into:

- Application Software
- System Software

Application Software

Programs that are developed to carry out specific tasks or solve particular tasks.
Application software can be categorized as followed:

- General-Purpose Software
- Integrated Software
- Specialized Software
- Customized software
- Custom-written (tailor-made) Software