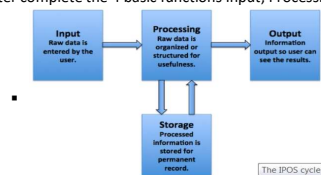


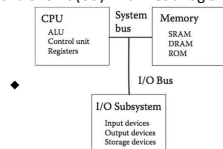
Introduction to IT - C182

Saturday, August 8, 2020 5:01 AM

- Third generation is when silicon chips were introduced to computers.
- Machine language corresponds one-to-one with assembly language.
- compiler language translates an entire program into executable program, which can be ran at a later time, while interpreter does it incrementally.
- TCL and python are two languages traditionally used for automation.
- Applications are interdependent with the database.
- Algorithms are formulas that outline how to execute tasks
- Language translator programs are used to compile the code in high-level languages
- Compilers require the components of the software to be defined from the onset.
- Databases using unique ids utilize string data
- Business Intel is located in the Knowledge level of the DIKW Model
- DIKW is a Pyramid with the base layer being Data and moving up to Information then Knowledge and finally Wisdom.
- Drivers allow the application to interact with the database.
- "FROM" is the SQL clause used to inform the database management system (DBMS) which table should be used to be interrogated by the query.
- System administrators install and maintain network resources.
- Expanding infrastructure to support additional locations helps businesses meet the goal of increased expansion.
- Security breach notification law governs actions of a company in the case of a data record lost, stolen or compromised.
- It is outside the scope/role of an IT professional to write laws on IT.
- It is part of the role of an IT professional to provide standards for ethical behavior.
- Organizations should keep intellectual property, customer account information, project plans and employee information private.
- Private information is often protected by federal legislation.
- Sensitive information is kept private but is not considered a threat to an individual if it becomes known.
- Privacy Act of 1974 "no Agency shall release information without the written approval of the individual whom information it is".
- Family Educational rights of privacy act of 1974 allows students to access their own educational records.
- Attendance policies are NOT covered in a company's IT policy.
- Types of databases are flat file, relational database and hierarchical.
- Open database connectivity and java database connectivity.
- A Copy machine is not IT as it just copy's Raw data.
- Subscript of 2 represents binary.
- Subscript of 8 is octal
- Subscript of 10 is Decimal
- Subscript of 16 is Hexadecimal
- 3 types of language are machine language, assembly language and High-Level Language.
- Compiled languages translate the entire program, creating an executable program, which can be run at a later time.
- Interpreted Language takes the most recently entered instruction, translates it to machine language, and executes it.
- Scripting languages include java script, asp, jsp, php, perl, tcl, and python .
- Programming languages include basic, c, c++ and Java.
- Scripting languages are built to automate processes.
- An Algorithm is a formula or procedure for solving a problem
- N-Tier includes presentation, Logic and Data tiers (Ref Slide)
- Roles of IT Professionals are System administrator, network administrator, database administrator, security administrator and Web administrator.
- Data is any input that has not been verified by both the sender and receiver.
- Wisdom can take a tangible and intangible form.
- Computer complete the 4 basic functions Input, Processing Storage and Output (IPOS Cycle)



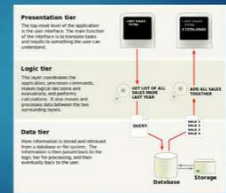
- CPU Contains the Control Unit (CU) Arithmetic Logic Unit (ALU) and is measured in GHz



- ALU does the actual processing of data
- ROM is Long term RAM is Short term
- Ram is Volatile Rom is not
- Input devices input data into a computer i.e. mouse or printer.
- The First generation of computers were big and utilized vacuum tubes, and took 26 people to operate it. It utilized machine language only.
- Second generation used transistors and they lasted longer than the vacuum tubes. They also used magnetic memory. And used a more pseudo code machine programming language,
- Third generation computers utilized silicon chips and integrated circuits which allowed them to be smaller which more people could utilize which propelled the development of software. It is also defined by the use of Dumb terminals.
- Forth Generation was identified by the development of a single chip processor (micro processor) lead to the development of the first personal computers.
- Machine language is developed per machine and is not cross compatible.
- High level languages are how we speak and write. It is translated into a machine language. COBOL is one of those translators.
- The internet is a network or collection of networks interconnected.
- LAN is the width of one BLDG.
- CIA Confidentiality, Integrity and Availability
- Confidentiality is data kept secure so that they are not accidentally provided to unauthorized individuals and cannot be obtained by an unauthorized user.
- Integrity requires data to be correct. For example how its gathered entered and modified has to be tracked to

Software Architecture (n-tier)

- Presentation Tier
- Logic Tier
- Data Tier



What is Information Technology?

- With data – processes and disseminates
- With technology – used in creating, maintaining, and making information accessible, which includes the software, data, and computer networks
- With people – enable processing of data and provide IT support

What are the distinct differences between the administrators?

Comparison	Differences
System v. network	Work with users vs. working with the physical network
Database v. web	Works with DBMS specifically vs. webpages that serve the DBMS
Security v. web	Secure data access vs. webpage access
Security v. network	Security the network parameter by allowing/denying access to data ports over the network; working with firewalls specifically v. physically installing and securing networking devices

What is the difference between an IT professional and an IT specialist?

Professional –

Expected to understand theory, hardware/software components, and programming techniques; need less math than a computer scientist

Specialist –

Have greater privileges with respect to the computer systems—they have access to all or many resources; must become aware of the impacts that computers, and IT in general, have on society

ensure that no malicious input was placed.

- Availability is information is available when it is needed.
- Risk Assessments 1. Identify the organizations information assets 2. Identify Vulnerabilities of each asset and 3. identify threats.