TIJ1O – Quiz # 1- Review

Computers, Safety & Ergonomics

Comfortable Computing

- **Ergonomics**
  - The science that seeks to adapt work or working conditions to suit worker
  - Repetitive movements and sitting at a workstation for extended periods of time can result in injuries in the form of :
    - Pain, tingling, numbness of the hands, headaches, neck pain
    - Soreness in legs, arms and back
    - Eyestrain, carpel tunnel syndrome
  - These are all considered to be **Repetitive Strain** injuries

The Chair

- Backrest of chair should have a snug fit against your back
- You should be level with the monitor when seated upright in your chair

The Display

- The recommended viewing distance is to have your face about one arm lengths away from the monitor.
- If glare is a problem, position the screen at right angles to the light source
- Do not face a window
- Keep the screen clean
- Adjust the brightness and contrast controls
- Reflections can be eliminated by tilting the screen

The Keyboard

- With computer keyboards, all you need is a light touch while typing
- Typing too hard is bad for your joints and is also bad for the keyboard
- Your wrists should be as straight as possible and your arms should be parallel to the floor

Breaks

- Break up your computer tasks by getting up every once in a while to stretch or walk around
- A good rule of thumb is to only be in front of the computer for 50 minutes of every hour

Computer Lab Safety

- Make sure that all wiring and cables do not obstruct areas where people will be walking
- Be very careful that you don't get an electric shock when plugging and unplugging cables
- Food and beverages can damage the equipment in the lab therefore no food or beverages around the computers
- No horseplay in the computer lab
- The **"One Finger Rule":** If it takes more than one finger of pressure, it is too much and is considered forcing the object
- **Cables** are to be taped down to the floor
- **Cables** are to be coiled when not in use
- **Lighting** – never touch the light bulbs on studio lamps

Introduction

- **Computer Engineers** specialize in the design, operation and maintenance of computer hardware and the peripherals that are used in conjunction with computers (printers, scanners, and so on).
- **Software Engineers** specialize creating applications that run on computers, also called computer programmers.

Types of Computers

- **Supercomputers**
  - very large and extremely expensive
  - used by government, industry, and research organizations
  - Weather forecasting, decryption, engineering design
- **Mainframe Computers**
  - used by banks, airlines, and insurance companies to store and manipulate large amounts of information and distribute it
  - the heart of a network or work terminals
- **Personal Computer**
  - is the most common computer, usually has a single user
  - can get them as cheap as $500
  - could include workstations as well (just keyboard, mouse and monitor)
- **Notebook Computers**
  - more portable size, getting smaller and more powerful every year
  - average one is about $600
- **Hand-held or Palmtop Computer**
  - are extremely small and can be used as a personal organizer
  - iPhones and Blackberries are types of hand-helds
- **Embedded Computers**
  - even smaller computers
  - examples: Average new cars contain 14 such computers
  - home appliances also use embedded computers
- **What is a computer?**
  - a computer is an electronic device that executes the instructions in a program
- **A computer has four functions:**
  - accepts data – INPUT
  - processes data – PROCESSING
  - produces output – OUTPUT
  - stores results – STORAGE

Computer Terminology

- **Hardware**
  - the physical parts of the computer
- **Software**
  - the programs (instructions) that tell the computer what to do

Hardware

- **CPU stands for Central Processing Unit**
  - it process all computer related information
- **Main Memory**
  - there are two types of Main Memory
  - RAM – Random Access Memory
    - information stored here is lost when the computer is shut off
    - this memory is used for temporary storage
  - ROM – Read Only Memory
    - this information is permanently stored in the chip
    - this is data that the computer needs to function properly
- **Motherboard**
  - the board on which the CPU and the memory are mounted
  - all devices are connected to the mother board through various connectors
- **Hard Drive**
  - a re-writable, permanent storage area
  - this is where you store you files!
  - in this class you will save all of your files on a server hard disk
  - similar to burning a CD but it is internal and re-writable
- **Input Devices**
  - keyboards, mice, fingerprint readers, scanners
  - light pens, cameras, bar code readers
  - any device that allows you to deliver information to the computer
- **Output Devices**
  - monitors, printers, speakers, projectors
  - any device that the computer delivers information to

Computer Survival Skills

- Know how to manipulate files and folders
  - Cut
  - Copy
  - Paste
  - Rename