David Wang

CSE 005

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**Lab1 09: Review for Exam 2**

1. What is a computer?

An electronic device that operates via instructions stored in its own memory

1. What is significant about a computer’s ability to store instructions?

Storing instructions in binary form allows for the processor to easily access memory such as cache or ram to quickly fetch and decode instructions

1. What kinds of software of computers run?

Systems software, programming software, and applications software

1. What are digital electronics?

Electronic systems that use a digital signal instead of an analog signal

1. What is an integrated circuit?

An electronic circuit formed on a small piece of semiconducting material

1. How do chips fit together?

Components are mounted on a circuit board called a system board, motherboard, or main board

1. What is form factor?

Size and dimensions of a device or component

1. What are the features of a component system?

Composed of standalone parts such as a display unit, system unit, and keyboard

1. What are the features of a clamshell device?

Display that closes onto keyboard, such as on laptops

1. What are the features of a slate device?

Touchscreen, such as on tablets or phones

1. What is important to remember about device maintenance?

Turn off device for first troubleshooting step

1. What is the most powerful computer?

Supercomputers

1. What are the options for personal computers?

Personal computers can be desktop, portable, or mobile devices

1. What about other digital devices?

Digital clocks

1. Why is it important to figure out how you are going to use your new device?

Considering the main types of usage for a device will help decide which features are necessary/unnecessary

1. How important is compatibility?

Allows you to use software on multiple supported devices

1. What exactly is a microprocessor, and what does it look like?

An integrated circuit designed to process instructions

1. What is a multi-core processor?

A microprocessor that contains circuitry for more than one processing unit

1. What is FSB?

Computer communication interface used in intel-chip based computers

1. How does the cache size affect performance?

A large cache can increase processing performance

1. What impact does word size have on performance?

Larger word size leads to increased performance

1. How does an instruction set affect performance?

Different microprocessor architecture can speed or slow down performance for different levels of tasks

1. Can a microprocessor execute more than one instruction?

Yes if parallel processing is supported by the processor and software

1. How can you compare microprocessor performance?

Clock speed, measured in GHz or core count

1. What is RAM?

Random Access Memory

1. How does RAM work?
2. Can a computer run out of memory?

As long as the hard disk has enough space to store parts of programs as virtual memory, the computer won’t run out

1. What is ROM?

Permanent, non-volatile type of memory

1. What is EEPROM?

A read only memory that can be erased and reprogrammed repeatedly

1. Which storage technology is best?

Hard drives are slower in terms of read/write, but allow for storing more data for less price. SSD’s are more expensive than hard drives per byte, but have much faster read/write speed

1. How does a hard disk work?

Contains platters and read-write heads

1. Why are hard disks so popular?

They are cheaper than SSDs, and offer a lot of storage in terms of byte/dollar value.

1. What should you know about hard disk specifications?

Access time and data transfer rate are main HDD specs

1. How does optical technology work?

By using dark and light spots

1. What is the significance of ROM, R, and RW?

They are different types of optical technologies, ROM stores data permanently, RW is rewritable, and R is recordable

1. What is solid state storage?

Type of storage that stores data in erasable, rewritable circuitry rather than on spinning disks

1. When should you use memory cards?

Smaller form factor devices like cameras use memory cards for additional storage

1. Do you need a solid state drive?

For things like booting OS, SSDs have sufficient storage and can drastically improve the OS experience. However, larger applications can take space up on SSDs easily and SSDs are more expensive than hard drives for less storage

1. What is cloud storage?

Remote storage storing information on networks

1. What should you know about cloud storage?

Data leaks can lead to security and privacy issues

1. What are expansion ports?

Additional ports for connecting input, or other devices

1. How do expansion ports relate to the rest of the circuitry in a device?

Expansion ports are for devices like USB drives

1. What should you know about expansion ports?

There are different types such as USB 2.0, 3.1, and USB C

1. What is hotplugging?

Adding and removing devices while a system is running and having the operating system immediately recognize the change

1. What is a device driver?

Program that controls a type of device attached to computer

1. What are your options for display devices?

LCD, Touchscreens

1. What factors affect image quality?

Screen size, refresh rate, resolution, sRGB rating

1. How does an ink jet printer work?

Uses print head to spray ink onto paper to form characters and symbols

1. How do laser printers compare to ink jet printers?

Laser printers print cleaner and faster

1. What is a network?

A network links things together and is a group or system of interconnected people or things.