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Assignment # 02

Assembly Language

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1) What are the three basic steps in the instruction execution cycle.

Ans) fetch, decode, execute, ~~device communication~~.

without the device drivers such as pointers, webcam, CD-ROM. cannot perform their respective functions.

2) Is it likely that the BIOS for a computer running MS-windows would be different from that used by a computer running Linux?

Ans) No they don't differ if you buy a computer running windows then you can install Linux on it or run Linux from a live CD/USB stick and it won't affect the BIOS at all. Similarly you can buy a computer sold running Linux and then install windows on it.

used mostly as cache memory in personal computers.

Embeded System in device such as mobile phones, digital cameras.

3) The Central processor unit (CPU) Contain register and what other basic element.

Ans). Central unit, Arithematic Logic unit, and the clock.

4) Why does memory access take more machine cycles than register access?

Ans) Conventional memory is outside the CPU and it responds more slowly to access registers are hard, wired inside the CPU.

5) The central processor unit is Connected to the rest of the computer System using what three business?

Ans) DATA, Address, and Central bases.

6) In the example regarding displaying a string of chapters which level exists b/w the operating system and the video controller cards.

Ans) The BIOS level, it Central Convert characters or maps the Character into same particular type of font provides display into the screen of computer.

7) Name four type of RAM mentioned in the chapter.

Ans) DRAM (Dynamic Read only memory) SRAM (Static Read memory) VRAM (video Read only memory) and mos RAM (Read only memory).

8) Describe VRAM:-

Ans) Special purpose memory which is used to images data for display by computer can be accessed by two device which are different from each other. Buffers b/w video card and cpu to provide better graphics

performance & computer display.

9) List at least two feature found in the intel p965 express chipset.

Ans) High definition audio chip and updated memory access.

10) what characteristic distinguish BIOS level input/output.

Ans) has post (power on self test), bootstrap loader, and system routine.

11) what is the purpose of the 8259A pic controller?

Ans) Handles and interupt input at a time which are also known as interupt requests.

12) Of the four level of input/output in a computer system which is the most universal and portable?

Ans) High level language function or application program such as C++ java are the most universal and portable.

13) Why are device drivers necessary, given that the BIOS already has code that communicates with the computer hardware.

Ans) Small computer software that controls a particular hardware device connector to a computer operating system.
Connection b/w operating system and hardware - device communication.

14) Describe SRAM and its most common use?

Ans) Stands for static random access memory is semiconductor memory that holds data in static form and static memory does not need to be refreshed periodically faster than DRAM, Does require power to flow continously in order to store bits of info - Also more expensive than DRAM.

15) Name all six segment register?

Ans)

Name all Six segment register:

Cs (code segment)
ds (data segment)
ES FS and GS (extra segment register)
SS (stack segment).

16) what special, purpose does the ECX register serve?

Ans) EAX is a 32-bit general-purpose register with two common uses: to store the return value of a function and as a special register for certain calculation

it is technically a ~~ret~~ volatile register, since the value isn't preserved instead, its value is set to the returns. value of the function before a function returns.

17) Name all eight 32-bit general-purpose register.

Ans) Initial Assembly has and general-purpose 32-bit registers, eax, ebx, ecx, edx, esi, edi, ebp, Although any data can be moved b/w any of these register, compilers, commonly use the same register for for the same uses and some instructions (such as multiplication and division) can only use the register they are designed to use.

18) which two additional steps are required in the instruction execution cycle when a memory operand is used?

Ans) fetch and store.