

assembly - 0918(H.W)

1. In 32-bit mode, aside from the stack pointer (ESP), what other register points to variables on the stack?

ANSWER: ESP를 제외하고 스택의 변수를 가리키는 레지스터는 EBP

2. Name at least four CPU status flags.

ANSWER: Carry Flag(CF), Overflow Flag(OV), Sign Flag(SF), Zero Flag(ZF)

3. Which flag is set when the result of an unsigned arithmetic operation is too large to fit into the destination?

ANSWER: Carry Flag(CF)

4. Which flag is set when the result of a signed arithmetic operation is either too large or too small to fit into the destination?

ANSWER: Overflow Flag(OV)

5. (TRUE/FALSE): When a register operand size is 32 bits and the REX prefix is used, the R8D register is available for programs to use.

ANSWER: True

6. Which flag is set when an arithmetic or logical operation generates a negative result?

ANSWER: Sign Flag(SF)

7. Which part of the CPU performs floating-point arithmetic?

ANSWER: FPU(Floating Point Unit)

8. On a 32-bit processor, how many bits are contained in each floating-point data register?

ANSWER: 80비트

9. (True/False): The x86-64 instruction set is backward-compatible with the x86 instruction set.

ANSWER: True

10. (True/False): In current 64-bit chip implementations, all 64 bits are used for addressing.

ANSWER: False

11. (*True/False*): The Itanium instruction set is completely different from the x86 instruction set.

ANSWER: True

12. (*True/False*): Static RAM is usually less expensive than dynamic RAM.

ANSWER: False

13. (*True/False*): The 64-bit RDI register is available when the REX prefix is used.

ANSWER: True

14. (*True/False*): In native 64-bit mode, you can use 16-bit real mode, but not the virtual-8086 mode.

ANSWER: True

15. (*True/False*): The x86-64 processors have 4 more general-purpose registers than the x86 processors.

ANSWER: False

16. (*True/False*): The 64-bit version of Microsoft Windows does not support virtual-8086 mode.

ANSWER: True

17. (*True/False*): DRAM can only be erased using ultraviolet light.

ANSWER: False

18. (*True/False*): In 64-bit mode, you can use up to eight floating-point registers.

ANSWER: True

19. (*True/False*): A bus is a plastic cable that is attached to the motherboard at both ends, but does not sit directly in the motherboard.

ANSWER: False

20. (*True/False*): CMOS RAM is the same as static RAM, meaning that it holds its value without any extra power or refresh cycles.

ANSWER: False

21. (*True/False*): PCI connectors are used for graphics cards and sound cards.

ANSWER: True

22. (True/False): The 8259A is a controller that handles external interrupts from hardware devices.

ANSWER: True

23. (True/False): The acronym PCI stands for programmable component interface.

ANSWER: False

24. (True/False): VRAM stands for virtual random access memory.

ANSWER: False

25. At which level(s) can an assembly language program manipulate input/output?

ANSWER: Port I/O, Memory-mapped I/O

26. Why do game programs often send their sound output directly to the sound card's hardware ports?

ANSWER: 빠른 처리 속도(실시간 사운드 처리)가 필요하고 운영체제의 높은 수준 API를 거치지 않으므로 지연 시간이 최소화되기 때문이다.