CS 401 Quiz No. 3

For More Quiz files Contact **03079707172** File Prepared by **Muhammad Ahmad**

1. In Intel 8088, there are a total of _____ possible interrupt vectors in an interrupt Vector Table.

   256

   Answer: Page No. 97

   be unable to find the desired chapter. Similarly in 8088 the physical memory address zero is fixed for the IVT and it occupies exactly a kilobyte of memory as the 256x4=1K where 256 is the number of possible interrupt vectors while the size of one vector is 4 bytes.

2. Programmable Interrupt Controller (PIC), which of the following ports is used to selectively enable or disable interrupts?

   21

   Answer: Page No. 107

   PIC Ports

   Programmable interrupt controller has two ports 20 and 21. Port 20 is the control port while port 21 is the interrupt mask register which can be used for selectively enabling or disabling interrupts. Each of the bits at port 21

3. Programmable Interrupt Controller (PIC) has, _____ input signal(s) and _____ output signal(s).

   Eight, One

   Answer: Page No. 105

   Programmable Interrupt Controller (PIC). It has eight input signals and one output signal. It assigns priorities to its eight input pins from 0 to 7 so that if

4. Which of the following instructions is used to read a character from the keyboard port?

   in al, 0x60

   Answer: Page No. 108

   ```
   in   al, 0x60          ; read a char from keyboard port
   ```

5. Which of the following interrupts plays the most significant part during single step debugging of a program?

   INT 1

   Answer: Page No. 97

INT 1, Trap, Single step Interrupt
This interrupt is used in debugging with the trap flag. If the trap flag is set the Single Step Interrupt is generated after every instruction. By hooking this interrupt a debugger can get control after every instruction and display the registers etc. 8088 was the first processor that has this ability to support debugging.

6. DOS has a single entry point to access all of its services through

   INT 21

   Answer: Page No. 100

   and similarly others through different interrupts. DOS has a single entry point through INT 21 just like a pin hole camera, this single entry points leads to a number of DOS services. So how one interrupt provides a number

7. According to the IBM standard, port number(s) for the parallel port is/are

   378

   Answer: Page No. 107

   be given in the DX register. Port numbers for specific devices are fixed by the IBM standard. For example 20 and 21 are for PIC, 60 to 64 for Keyboard, 378 for the parallel port etc. A few example of IN and OUT are below:

8. _____ is used for exporting keyboard services.

   INT 16

   Answer: Page No. 100

   BIOS exports its various services through different interrupts. Keyboard services are exported through INT 16, parallel port services through INT 17

9. TSR stands for

   Terminate and Stay Resident

   Answer: Page No. 111

   To understand Terminate and Stay Resident (TSR)

10. Which of the following IRQS is used for sound card or network card?

    IRQ 5

    Answer: Page No. 106

    connected to serial port COM 1. IRQ 5 is used by the sound card or the network card or the modem. An IRQ conflict means that two devices in the

11. The Programmable interval Timer (PIT) has an input frequency of

    1.19318 MHz

    Answer: Page No. 114

Another very important peripheral device is the Programmable Interval Timer (PIT), the chip numbered 8254. This chip has a precise input frequency of 1.19318 MHz. This frequency is fixed regardless of the processor

12. Which of the following interrupts is used to maintain the system time?

INT 8

Answer: Page No. 106

chip at a precise frequency and the handler at INT 8 is invoked which updates the system time. A key press generates IRQ 1 and the INT 9 handler

13. The offset address of an interrupt service routine 'n' is at

n×4

Answer: The IBM PC AT Programmer's Guide James T. Smith Prentice Hall Press, 1986

Page No. 122

Each vector can store a segment : **offset address of an interrupt service routine** (**ISR**) . A hardware or software interrupt instruction int **n** finds interrupt vector **n** at location 0000 : 4 * **n** . As in all 8086 storage schemes ...

14. Which of the following are the data pins used to take data from the processor to the device connected through parallel port?

2 to 9

Answer: Page No. 117

with the printer". This is a bidirectional port so there are some pins to take data from the processor to the parallel port and others to take data from the parallel port to the processor. Important pins for our use are the data pins from pin 2 to pin 9 that take data from the processor to the device. Pin 10,

15. Which of the following is the source register in OUT instruction?

AL or AX

Answer: Page No. 107

byte form is almost always used. The source register in OUT and destination register in IN is AL or AX depending on which form is used. The port number

16. Which of the following instructions selects the peripheral address space?

IN

Answer: Page No. 107

IN is given the processor selects the peripheral address space.

17. Which of the following IRQS is used by the parallel port?

IRQ 7

Answer: Page No. 117

IRQ 7 if enabled in the PIC and in the parallel port controller. P

18. Which of the following instructions is used to disable all interrupts during the execution of a program?

cli

Answer: Page No. 108

```
cli                     ; disable interrupts
```

19. Which of the following interrupts is used for exporting parallel port services?

INT 17

Answer: Page No. 100

parallel port services through INT 17

20. At the end of servicing an interrupt,_____ signal is used to inform the Programmable Interrupt Controller (PIC) about it.

EOI

Answer: Page No. 106

is desired. At the end of servicing the interrupt the handler should inform the PIC that it is completed so that lower priority interrupts can be sent from the PIC. This signal is called an End Of Interrupt (EOI) signal and is sent through the I/O ports of the interrupt controller.

21. _____ is used in debugging along with the trap flag.

INT 1

Answer: Page No. 97

INT 1, Trap, Single step Interrupt
This interrupt is used in debugging with the trap flag.

22. IBM AT has _____ Programmable Interrupt Controllers (PIC).

two

Answer: Page No. 105

IBM AT and later computers have two PIC

23. iret returns on the basis of _____ and _____

CS, IP

Answer: Page No. 131

can immediately say that nothing can stop us from doing that. IRET will return to whatever CS and IP it finds on the stack. Now B is interrupted

24. In multitasking, which of the following interrupts is used as a scheduler?

INT 08

Answer: Page No. 133

relevant to us now. INT 08 that is saving and restoring the registers is called the scheduler and the whole event is called a context switch.

25. In Intel 8088, the Interrupt Vector Table occupies _____ of memory.

4 bytes

Answer: Page No. 96

The correlation process from the interrupt number to the interrupt handler uses a table called interrupt vector table. Its location is fixed to physical memory address zero. Each entry of the table is four bytes long containing the segment and offset of the interrupt routine for the corresponding interrupt number. The first two bytes in the entry contain the offset and the

26. The parallel port connector is called

DB-25

Answer: Page No. 117

The parallel port connector is a 25pin connector called DB-25.

27. In programmable interrupt controller, which of the following ports is the control port?

Port 20

Answer: Page No. 107

Programmable interrupt controller has two ports 20 and 21. Port 20 is the control port while port 21 is the interrupt mask register which can be used

28. PCB stands for

Process control block

Answer: Page No. 132

The space where all registers of a task are stored is called the process control block or PCB. Actual PCB contains a few more things that are not

29. If the _____ flag is set, the after every instruction a type 1 interrupt will be automatically generated.

Trap

Answer: Page No. 125

If the the trap flag is set, the after every instruction a type 1 interrupt will be automatically generated. When the IVT and reserved interrupts were

30. During multitasking _____ is used to get control from the program without letting the program know about it.

IRQ 0

Answer: Page No. 131

simple case is all its registers and stack. We will deal with stack later. Now to get control from the program without the program knowing about it, we can use the IRQ 0 highest priority interrupt that is periodically coming to the processor.

31. Which of the following flags can be used in mathematical operations?

Carry flag

Answer: Page No. 125

The use of the trap flag has been deferred till now. The three flags not used for mathematical operations are the direction flag, the interrupt flag and the trap flag. The direction and interrupt flags have been previously discussed.

32. The parallel port has _____ views.

Two

Answer: Page No. 116

The parallel port has two views,

33. Which of the following is BIOS interrupt providing keyboard services?

int 0x16

Answer: Page No. 135

```
int 0x16                ; bios keyboard services
```

34. Which of the following instructions, selects the memory address space?

MOV

Answer: Page No. 105

When MOV is given the processor selects the memory address space,

35. Which of the following interrupt Requests (IRQ) is derived by the keyboard?

IRQ 1

Answer: Page No. 106

generating interrupts with a specified frequency. IRQ 1 is derived by the keyboard when generates an interrupts when a key is pressed or released.

36. The thread registration code initializes the PCB, and adds it to the linked list so that the _____ will give it a turn.

Scheduler

Answer: Page No. 133

now dynamic. The thread registration code initializes the PCB, and adds it to the linked list so that the scheduler will give it a turn.

37. Which of the following is the time interval between two timer ticks?

55ms

Answer: Page No. 114

an interval of about 55ms between two timer ticks.

38. Which of the following Interrupt Requests (IRQ) is derived by the timer device?

IRQ 0

Answer: Page No. 105

IRQ 0 is derived by a timer device.

39. Which of the following Interrupt Requests (IRQ) is connected to serial port COM 1?

IRQ 4

Answer: Page No. 106

in the machine. IRQ 3 is connected to serial port COM 2 while IRQ 4 is connected to serial port COM 1. IRQ 5 is used by the sound card or the