Question 1:

1:

quiz1: a[0]:0, a[0]:30, *Ptr1:0 *Ptr2:1

2:

```
unsigned int myIPAddress = 0x01020304;
myIPAddress = (((myIPAddress>>24)&0xff) | // moving byte 3 to byte 0
                    ((myIPAddress<<8)&0xff0000) | // moving byte 1 to byte 2
                    ((myIPAddress>>8)&0xff00) | // moving byte 2 to byte 1
                    ((myIPAddress<<24)&0xff000000)); // moving byte 0 to byte
```

3:

quiz1: step 1: a[0]:0, a[0]:30, a[0]:48, myIPAddress: 4030201

Question 2:

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Question 3:

Grade Distribution for Quizzes is 10%

Question 4:

Error detection involves techniques to identify noise or other impairment to the data as it is transferred from source to destination. It ensures data delivery across malicious networks.

Question 5:

Transport Layer: Error detection code such as 'checksum' checks for any data corruption, lost data, out of order data and duplicated segments. Each segment has a 16 bit field in its header for checksum. The Destination Transport layer discards segments that have checksum errors.

Network Layer: IPV4 provides reliability to ensure IP packet headers are error free. The routing node calculates 'checksum' for error detection and discards it if the checksum is bad.

Data Link Layer: It uses Parity Check and Cyclic Redundancy Check (CRC) to detect errors.

Physical Layer: Error detection is carried out using 'Hamming Distance', 'Checksum' or 'CRC'.

Question 6:

In best conditions, the average throughput between host 1 and host 2 is min{10mbps,100mbps} = **10mbps** .

Question 7:

Transmission Delay = (L/R) = (1500 * 8)/(10 Mbps) = 1.2 ms
Total Propagation delay = 4 ms + 10 ms = 14 ms

Total time to send packet from Host 1 to Host 2 = 1.2 + 14 ms = **15.2 ms**