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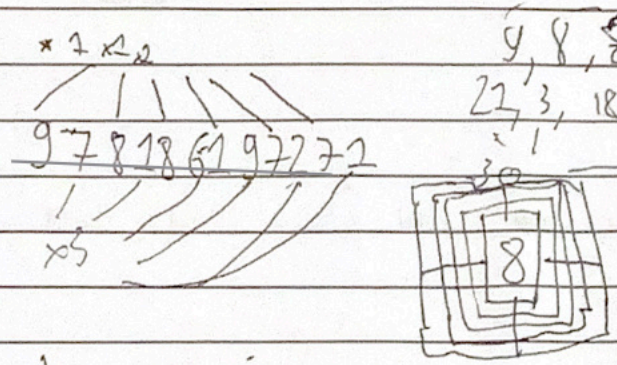
b) Byte 01010100 because all the others have even number of 1's but not this one

Q4)

i) use a 256 bit key

ii) The data gets converted to bits (or bytes)

Q5)



10 + 19 = 40

40 + 78 = 118

$$10 \overline{)118}^{11} \quad -110 \quad 8$$

Q6) Checksum is a way of finding Errors in data used mostly in packets. The checksum is adding up all the data and if the result matches the checksum digit then there is no error.

Q7) Packet switching is splitting the data to be transmitted into several packets for faster transmissions. Upon arriving to the packets receiver, the packets get rearranged based on their index found in the trailer of each packet. After that, the packets are reconstructed in the original form.

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Q1. a) bits are being sent through two different channels at the same time.

b) Parallel is faster but more expensive.
Serial is cheaper but slower

c) if you need to send data near you and fast

Q2

a) 0
1
1

b) If the parity bit doesn't match the rest of the byte, the receiver knows the data is corrupted and re-request it.

c) checksum

Q3)

a) Half-duplex data transmission means that data can go both ways but not at the same time. The first computer starts his transmission and only when the end byte is received the second one can start transmitting.

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