

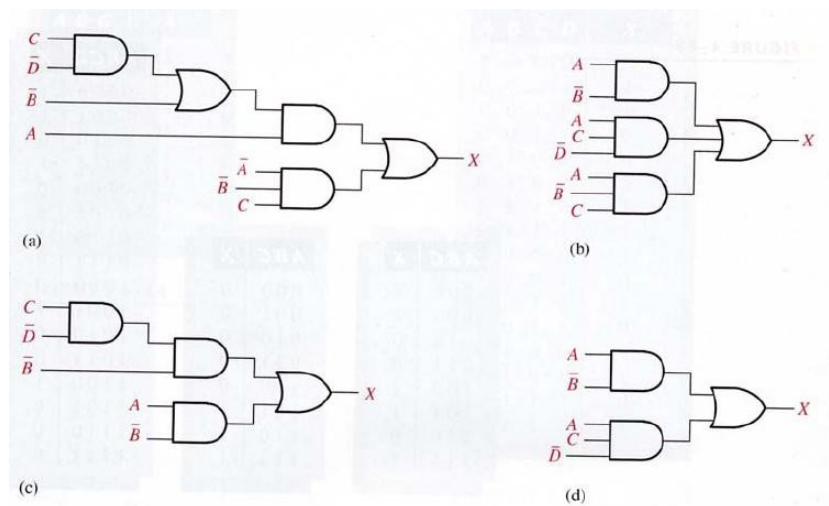
1.

- a) Convert $(0001\ 1010\ 1110\ 0110)_2$ to hexadecimal
- b) Convert $(4B2F)_{16}$ to binary
- c) Convert $(0,565)_{10}$ to binary
- d) Convert $(1101\ 1101)_2$ to decimal and BCD
- e) Convert $(F5,3B)_{16}$ to octal

2.

- a) Convert $(10111)_2$ to Gray code
- b) Convert Gray code 1011 to binary
- c) Convert $(52211)_{10}$ to single-precision floating-point format
- d) Convert 1 10000001 01001001110001000000000 to decimal

3. Find out, which of the following circuits are logically equivalent.



4.

You want to send a binary code $(11001)_2$ using a long cable. Because you're not sure the cable works, you check for data errors. First convert the data to Hamming code (odd-parity).

After transmission, the receiving device replies with Hamming-coded message 110100011. Was the transmission successful, and if not, where's the error?

5.

AD7475 is a 12-bit A/D converter with a 2,5 V internal voltage reference, which is also the maximum analog input voltage. SNR is 69 dB and gain error is ± 3 LSB. What change in voltage does the LSB correspond to? How does the SNR effect the conversion accuracy? What is the total error in mV?