1. Convert binary 10110110 to decimal equivalent.

2. Convert decimal 249 to binary equivalent.

3. Add binary 01100111
                00100110
   Check your work by converting to decimal equivalents.

4. Construct the True Tables for   AND   OR   XOR   EQV   NAND   NOR.

5. Prove DeMorgan's Theorem using truth tables.

6. Use Truth Tables to show that $\overline{A \ XOR \ B}$ =   A   EQV   B .

7. Use Boolean equations to show that three NOR gates produce a single AND gate.

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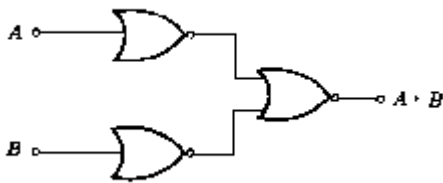
8. Design   AND   OR   XOR   EQV   gates using only NAND gates (simple inverters are okay as needed).

9. Suppose P is True and Q is False (Use P = 1 and Q = 0, if you wish).
   Find
                P   AND   Q

                P   AND $\overline{Q}$

                $\overline{P}$ OR $\overline{Q}$

                $\overline{P}$ XOR   Q

                $\overline{P}$ EQV   Q