Homework Set 4

DUE: Monday, November 5, 2001

Please show *all* of your work. In certain problems, you may be asked to use Design Works. Otherwise, solutions do not have to be typeset, but may be if desired. In any case, your solutions must be legible. Please staple all the pages together. Make it clear which problem is which (especially important for the printouts from Design Works).

1. Katz problem 4.15 (a), (b), (c) and (d) (implementing functions with MAX, decoders, ROM, PLA).   Using DesignWorks is optional.

Hints:
If you use DesignWorks for part (a), use a Mux8 device from the Primlog library with its EN input tied to 0.
In (b), you may use an OR gate that has less than 16 inputs.
In (c), draw a block diagram of the ROM, label the address lines, and explain what bit values you would store at each memory location.
In (d), don't forget to minimize the logic before implementation.

2. Katz problem 4.20 (a) (ROM implementation from smaller ROMs and decoders).