HOMEWORK #5: Heuristic Minimization

This homework is due electronically by midnight on Tuesday, October 6, 1998.

1. Chapter 5, problem 3 (10 points)
2. Chapter 5, problem 12 (10 points)
3. Chapter 5, problem 17 (10 points)
4. Programming exercise 3 (70 points)
   Using your favorite programming language, design a heuristic minimizer. In particular, you
   need to implement the following algorithms:
   
   - Complement
   - Tautology
   - Containment
   - Expand
   - Irredundant
   - Reduce
   - A minimization loop

   For expand, irredundant, and reduce, you do not need to make them optimal, only correct. Again, this program should accept espresso style input files, and produce espresso style output files.

   To compare your results, you can use the following espresso (espresso can be found in
   ~cmyers/bin) command:

   espress (filename)

   Note: it is not likely your results will match espresso.

   Put all your files in one directory, and please be sure to include a README file with your
   problems 3, 12, and 17 and a description of how to compile and use your code. To turn in
   your directory, type the following commands in your working directory:

   tar cvf hw5.tar *
gzip hw5.tar
uuencode hw5.tar.gz hw5.tar.gz | mail myers@ee.utah.edu

5. Extra credit
   Implement a heuristic minimizer for multiple output functions.

6. Extra credit
   Implement the best minimizer (i.e., closest to optimal results, ties will be broken with run-
   time).