Computer Aided Design of Digital Systems - COE572
Homework I.
Date: Fall 2003.

Question 1.
Other than the tools discussed in the design flow, there are several others
that are required which may be used in the to reduce design time (some
running in the background). Name at least three such tools and briefly ex-
plain their function.

Question 2.
Write a small paragraph (not more than half a page) on the relationship
between design styles studied (choose any three) and timing performance
of circuits.

Question 3.
One way to describe the connectivity amongst circuit elements is the *netlist*
description. A two-point net is a tuple of the form (i, j) and describes a
connection between elements i and j.

An ASCII file say **netlist** contains a list of two-point nets, one net per
line. Write a program to read the file **netlist** and generate the connectivity
matrix of the circuit. The connectivity matrix must be written into a file
of integers named **cmat**. Use the following netlist as a sample input to your
program. The circuit elements are given names such as "A", "B", and so
on. (You may want/have to map these names to integers for convenience).

$(A,\ a2s_1.in1)$
$(B,\ a2s_1.in2)$
$(A,\ a2s_2.in1)$
$(C,\ a2s_2.in2)$
$(C,\ a2s_3.in1)$
$(B,\ a2s_3.in2)$
$(a2s_1.out,\ o3s_1.in1)$
$(a2s_2.out,\ o3s_1.in2)$
$(a2s_3.out,\ o3s_1.in3)$
$(o3s_1.out,\ Z)$