Explanatory Notes Regarding Program Output

Associated with the APES Program
General Information

In the most general case, the output from the program consists of an “echo” print of material properties and solution parameters, the generated node and element data, messages for detected data errors, and finally, for each time step (as called for by the SOLUTION TIME commands) the problem solution. Some or all portions of the “echo” print can of course be suppressed by specifying an appropriate ECHO commands.

When data errors are detected, the program aborts the job after the printing of the input data.

The output of the node point specifications includes any equivalent node point “forces” (in $x_1$-$x_2$-$x_3$ components, as appropriate) resulting from specified distributed surface “pressures”.

For mechanical analyses, the printed normal stresses are “effective”; tensile stresses are positive. Depending upon user preference, the pore pressure will be expressed as either total pressure or excess pressure. The units of pore pressure are those of stress. Compressive pore pressures are positive.

The positive directions for stress components associated with two-dimensional mechanical analyses are shown below.

![Diagram showing positive x3-axis out of paper]
positive $x_3$-axis into paper

positive $x_3$-axis into paper

positive $x_3$-axis out of paper