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The thesis is to develop a FORTRAN computer program for simulating the dynamic behavior
of a double-pipe heat exchanger. Instead of solving by analytical method, numerical methods were
used. The conservation equations in PDE form were converted to finite difference equations
implicitly. SIMPLE Algorithm was used to solve these equations and the results were exported to
Matlab for graphic display. Comparison the result from experiments and computation, it was found
that in case of parallel flow, the results were comparable either steady-state or unsteady state . The
maximum error was $\pm$ 1.5 $^\circ$C. On the other hand, in case of counter current flow, the results were not
consistent. The error was large. After checking, it was found that the result from the experiment was
not reliable due to the energy imbalance.

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