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### Subroutine SIMLAT

#### Output:

None.

#### Input:

Program control data.

#### Called By:

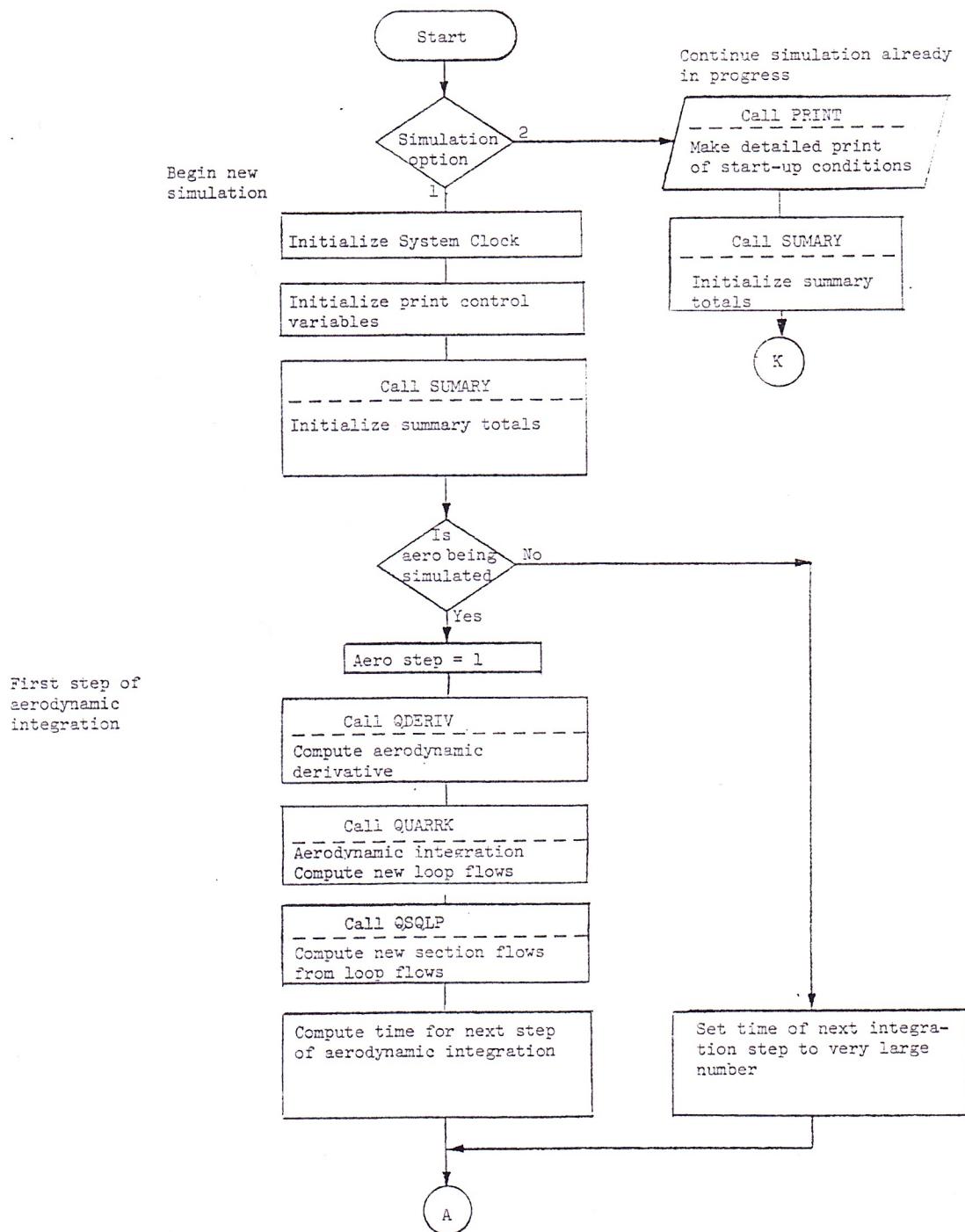
DSES.

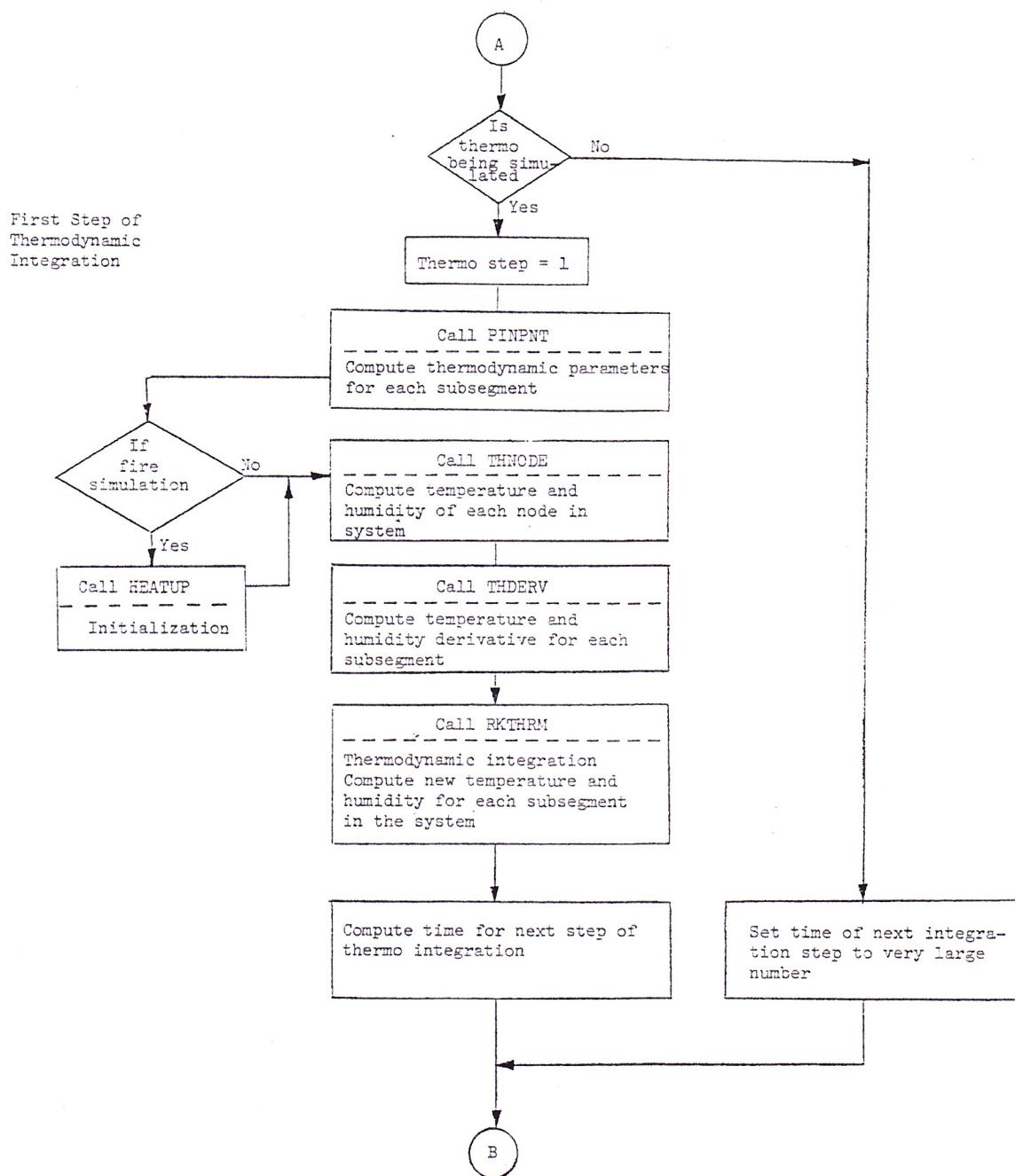
#### Calls Subroutines:

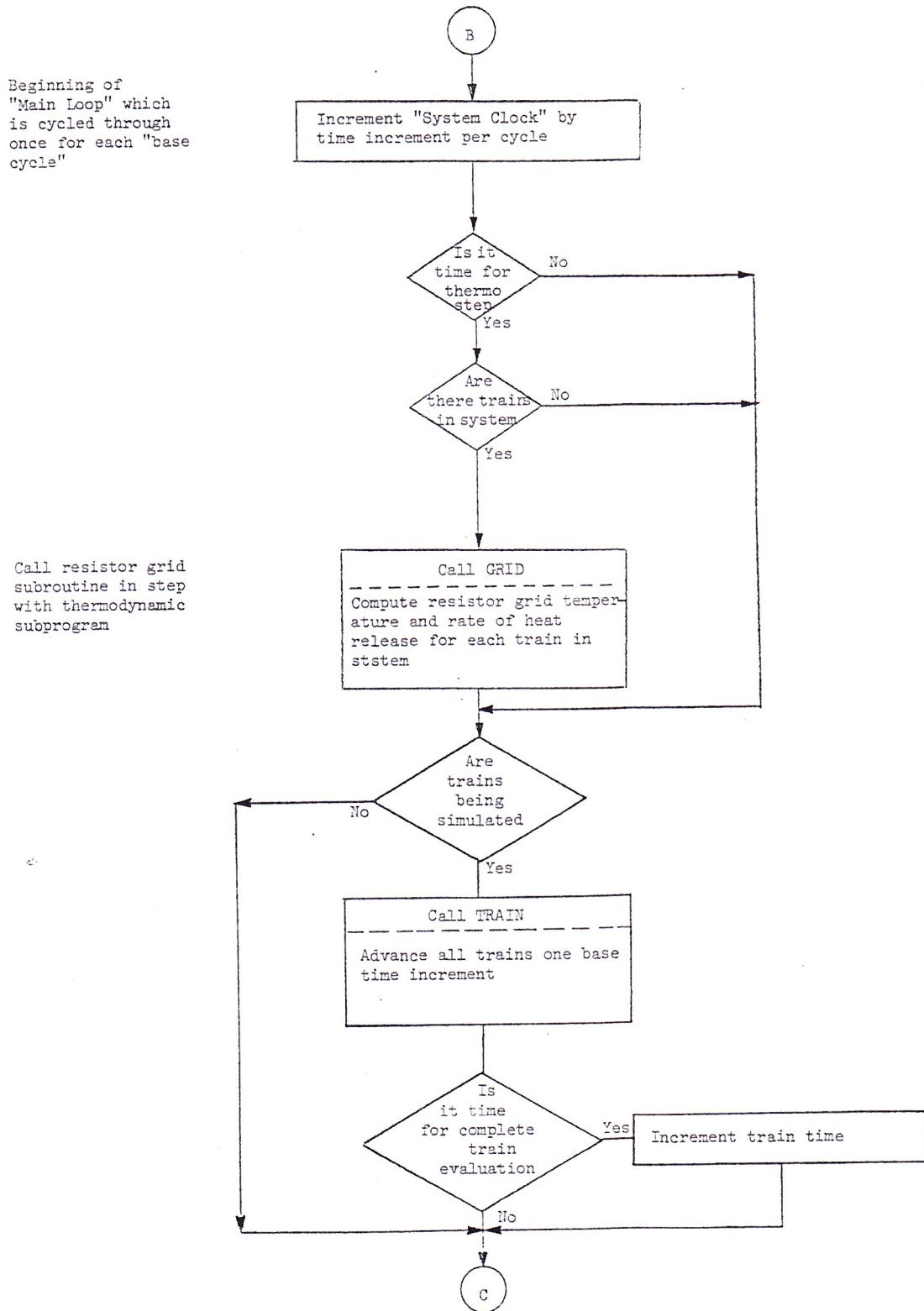
SUMARY	THDERV	PRINT	HEATUP
QDERIV	RKTHRM	SIMERR	HEATUC (labeled common)
QUARRK	GRID	DVCHK	
QSQLP	TRAIN	OVERFL	
PINPNT	MAXMIN	EXIT	
THNODE			

#### Purpose:

This subroutine controls the simulation of the system. It controls the sequence and frequency of calling the subroutines that perform each of the three divisions of the simulation: train performance, aerodynamic phenomena, and thermodynamic phenomena.

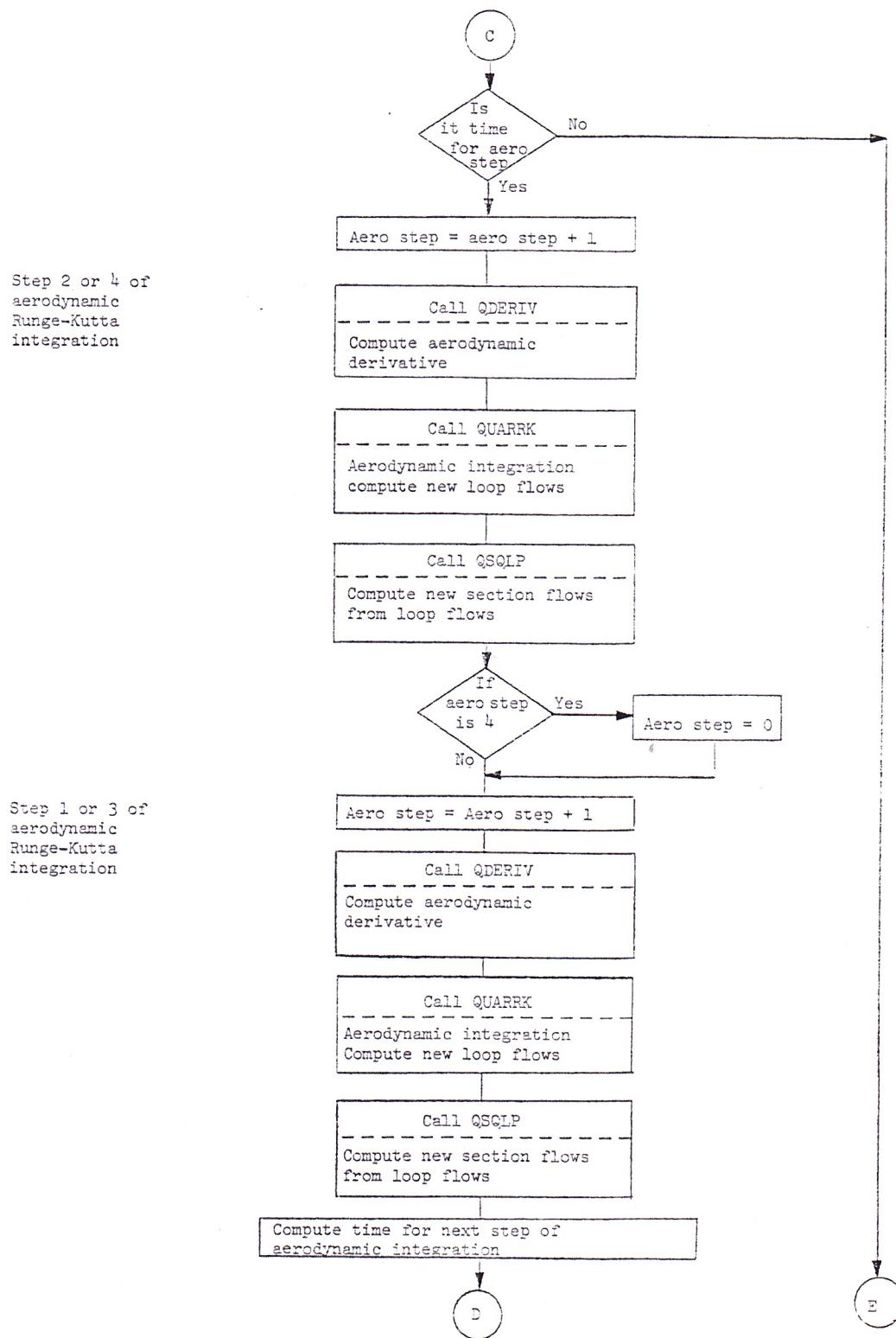


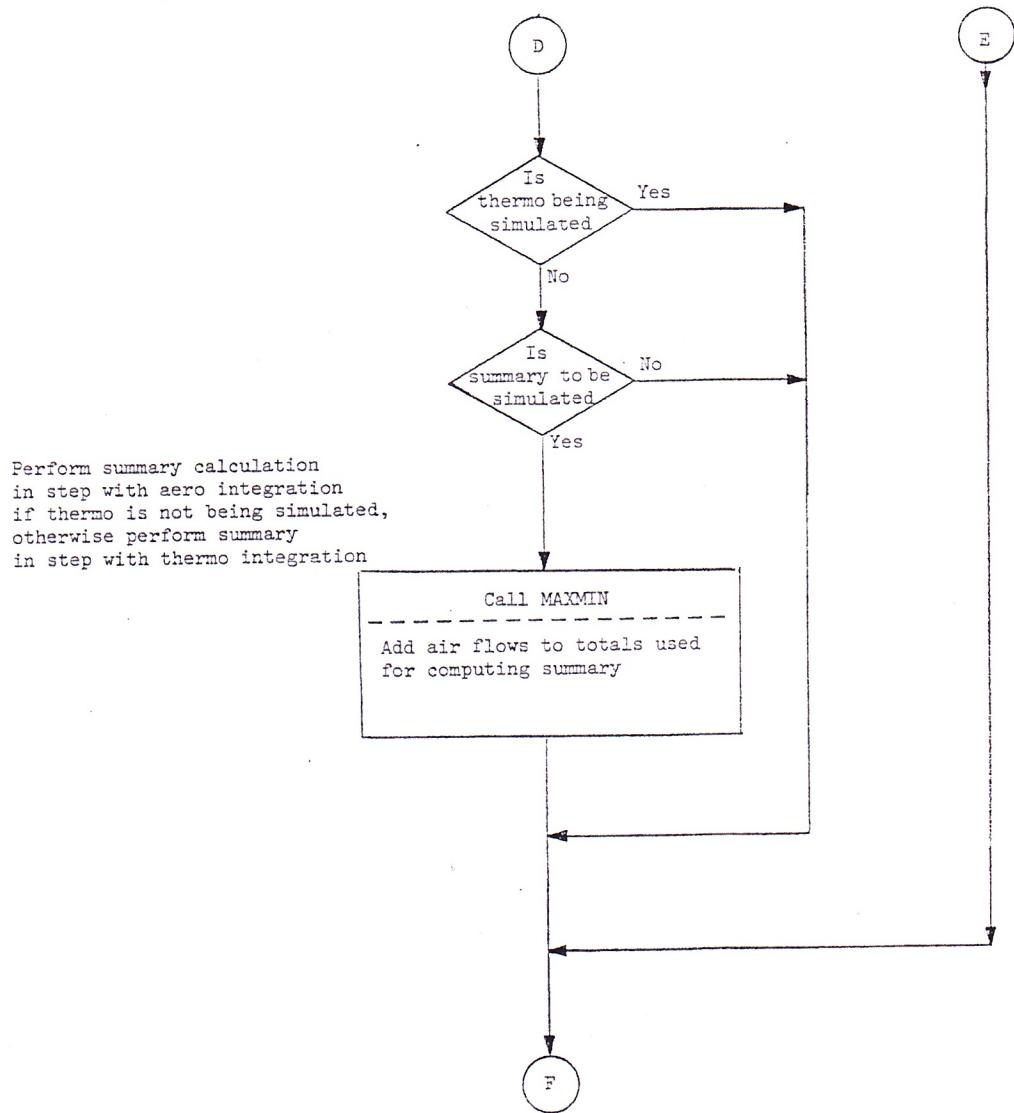




## Subroutine SIMLAT

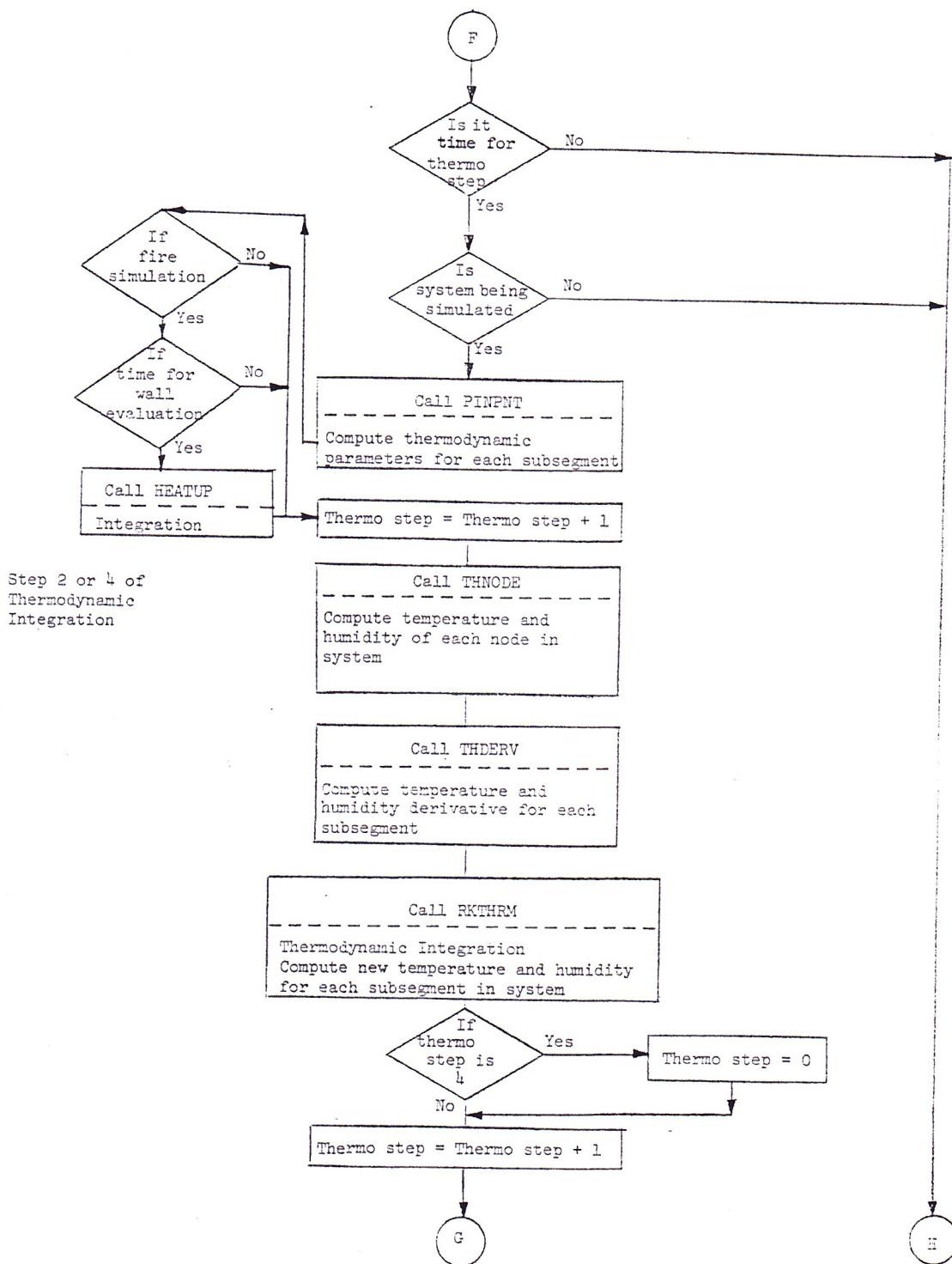
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### Subroutine SIMLAT

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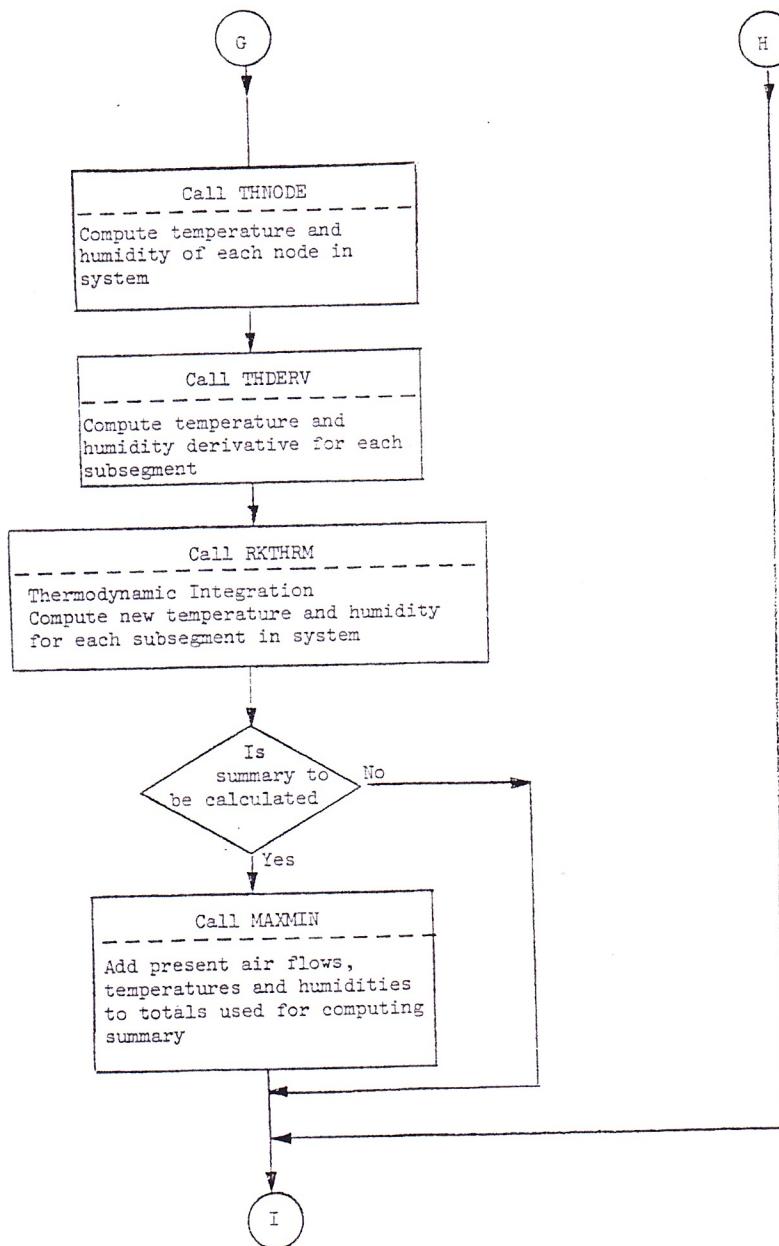


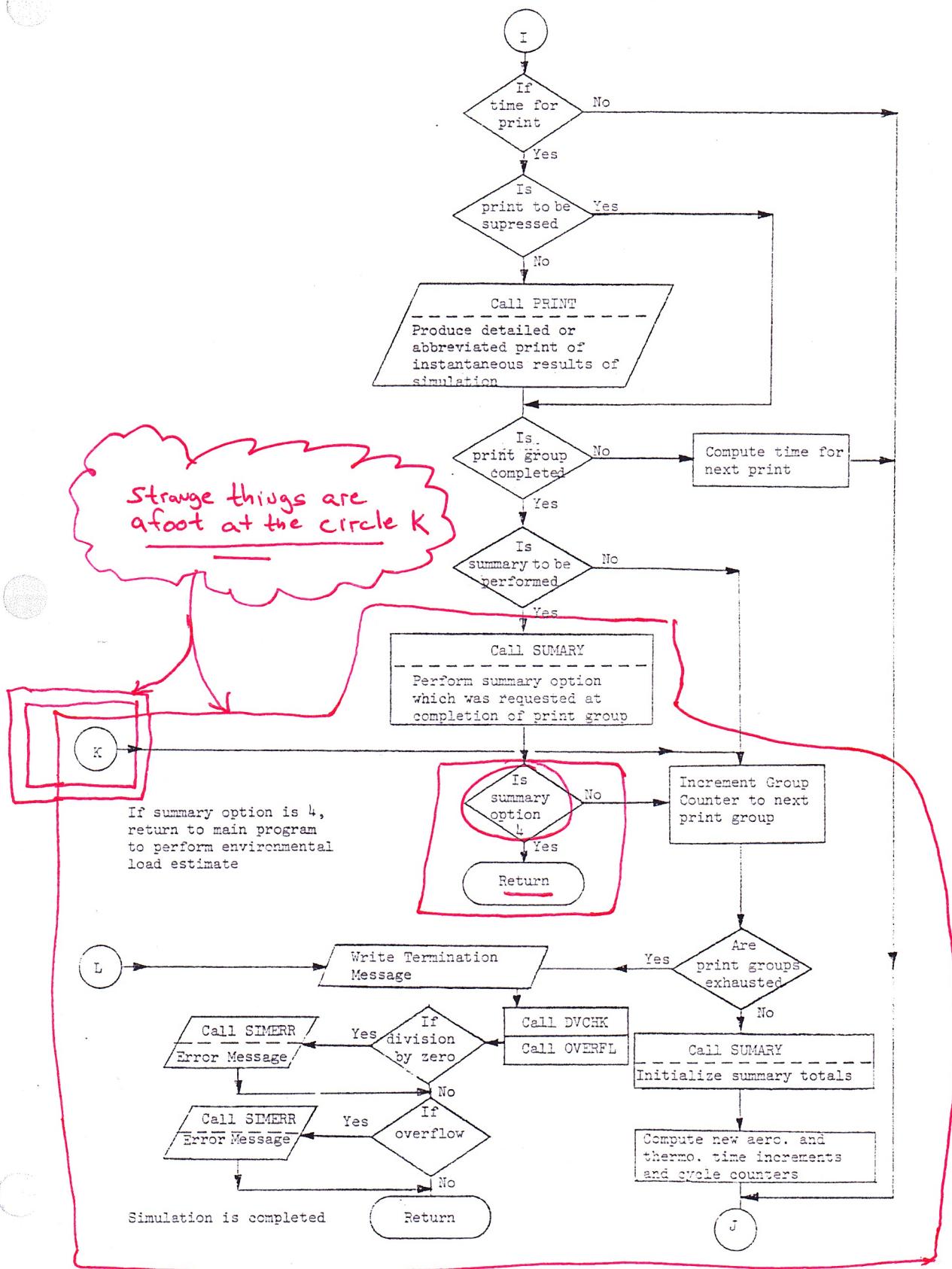
## Subroutine SIMLAT

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Step 1 or 3 of  
Thermodynamic  
Integration

Perform summary  
calculations





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Main Program DSES

Output:

Initialization of array size limit variables.

Input:

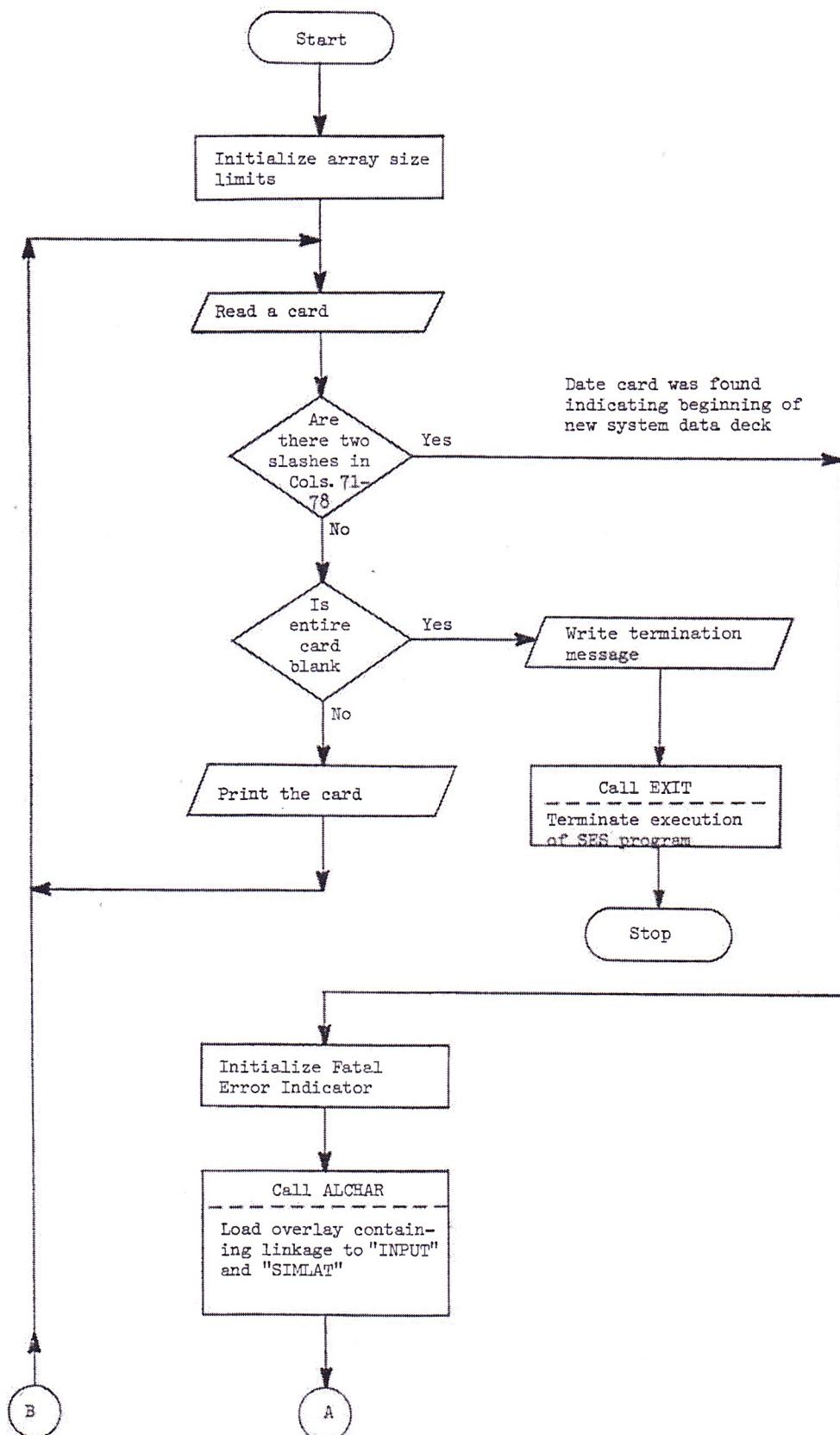
None.

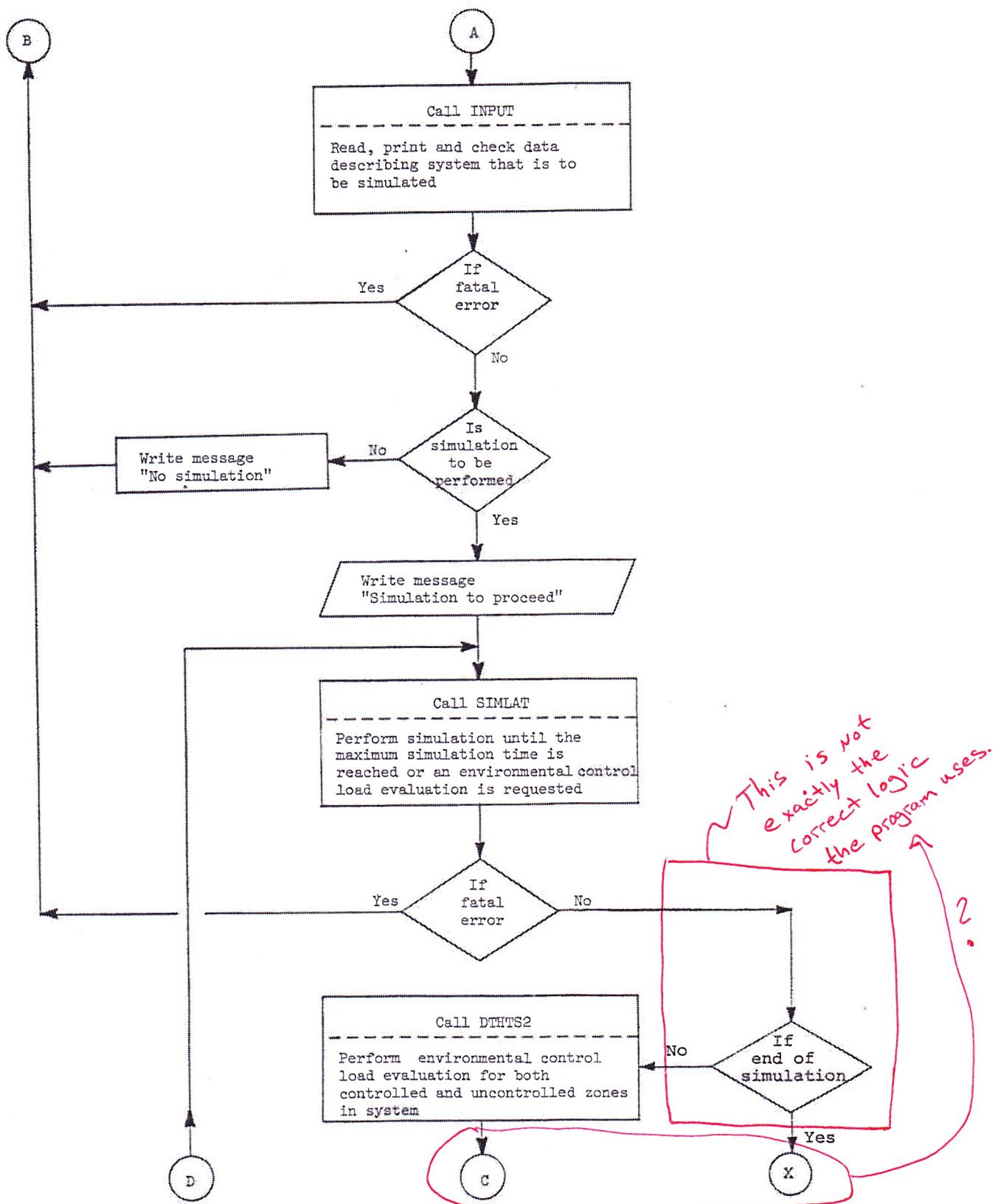
Calls Subroutines:

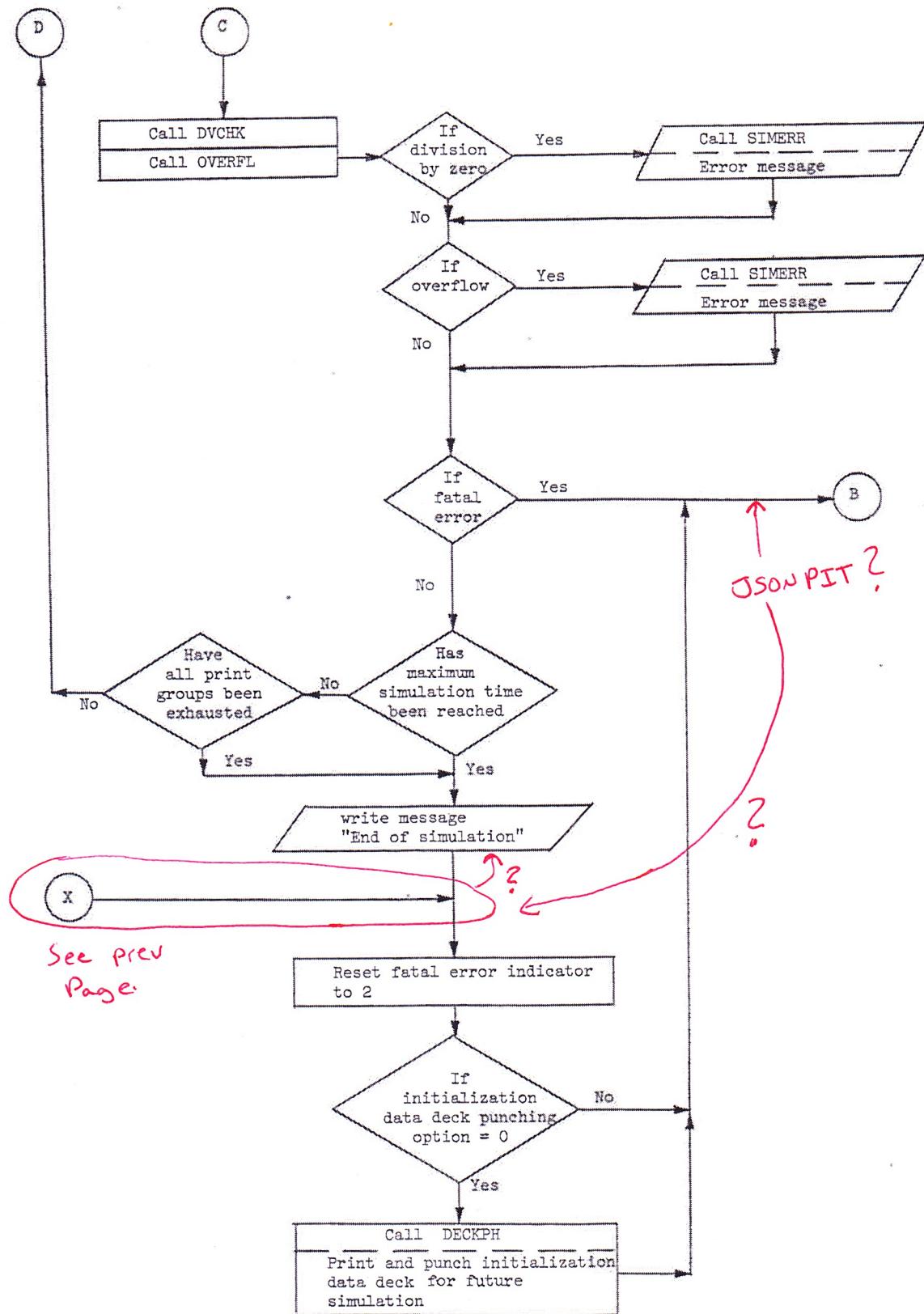
ALCHAR	SIMERR	DECKPH
INPUT	DVCHK	
SIMLAT	OVERFL	
DTHTS2	EXIT	

Purpose:

This routine is the main program of the SES program. This main program initializes the array size limit variables, finds the beginning of data deck describing the system to be simulated, and controls the operation of the simulation. Subroutine INPUT is called to perform the input verification of the data, Subroutine SIMLAT performs the simulation of the system, and Subroutine DTHTS2 performs the environmental control load evaluation. Subroutine DECKPH will punch a deck of initialization data for subsequent simulations.







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### Subroutine PRINT

#### Output:

Printed output showing the conditions within the system at an instant of time. These results may be printed in one of two different printing formats: abbreviated print format and detailed print format.

#### Input:

The train data, airflow rates, temperatures and humidities which are computed during the simulation.

#### Called By:

SIMLAT  
INPUT  
SIMERR

#### Calls Subroutines:

WETBLB  
RELHUM

#### Purpose:

This subroutine produces either a detailed or abbreviated print of the instantaneous conditions within the system. The simulation time at which the print is produced, a description of the current train activities, the rates of airflow, the temperatures, and the humidities throughout the system are shown in both the abbreviated and the detailed printing formats.

