STRUCTURE ANALYSIS IN SIMULATION DEVELOPMENT
Outline

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1. Introduction to structured programming
    a. Introduction based on work published by O.J. Dahl, Universitet i. Oslo, Mathematisk Institut; E. W. Dijkstra, Department of Mathematics, Technological University, Eindhover, The Netherlands; C.A.R. Hoare, Department of Computer Science, the Queen's University of Belfast, Belfast, Northern Ireland.

2. Adaptation to Simulation Development
    a. Objectives of structured analysis.
    b. Functions of structured analysis.

3. Example - Structure of Craftco Manufacturing Company
    a. Flow of development logic
    b. Concepts
    c. Data points
    d. Data flow

FIGURE I

STRUCTURE OF CRAFTCO MANUFACTURING COMPANY

Begin

Begin

Initialize
Starting
Data

End

Begin

Begin

Compute
Revenues

End

Begin

Compute
Number
of
Units
Sold

End

Compute
Income
Statement

Begin

Compute
Total
Operating
Expenses

End

Begin

Print
Current
Income
Statement

End

Compute
Balance
Sheet

End

Begin

Compute
Retained
Earnings

End

Begin

Print
Current
Balance
Sheet

End

End
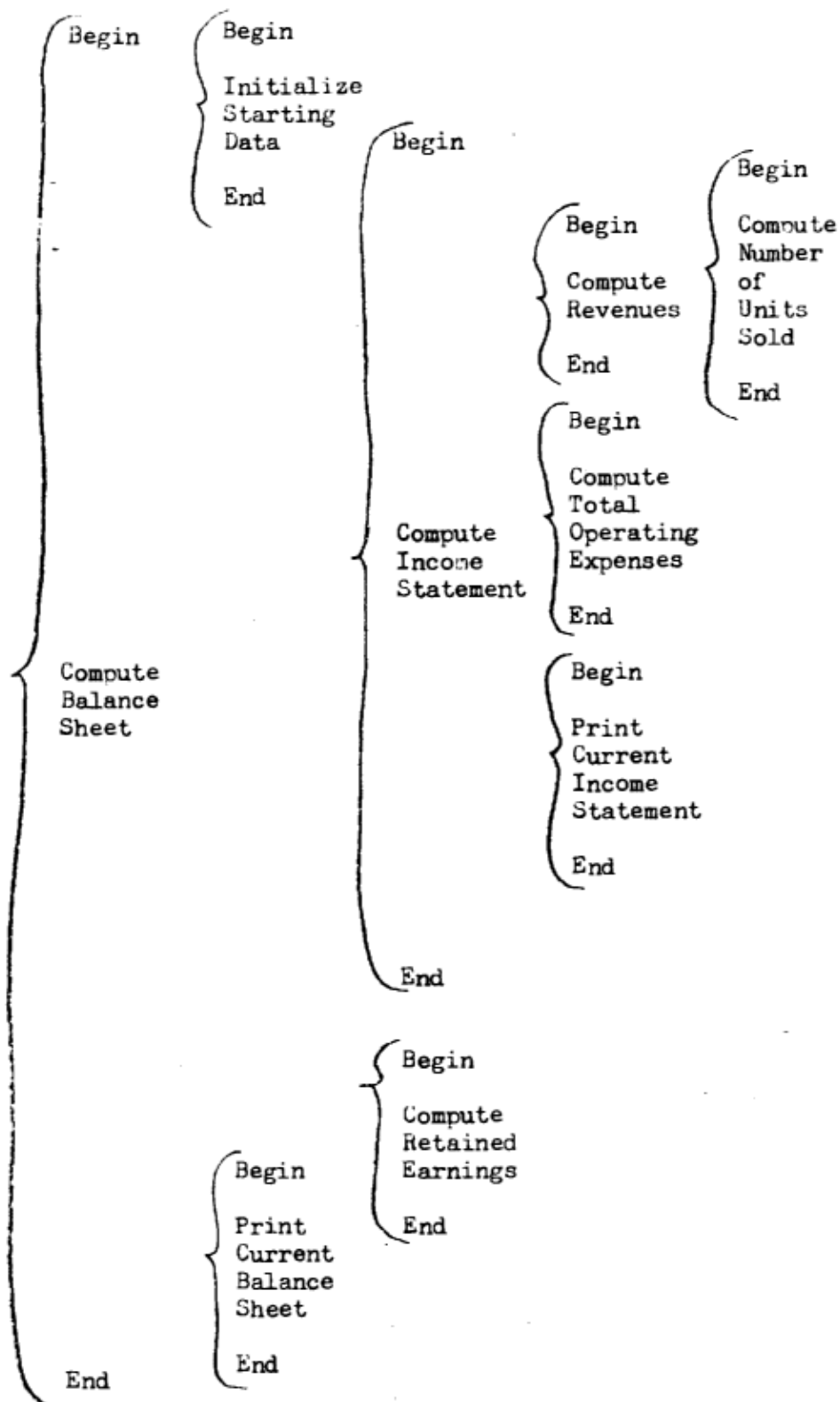
FIGURE II

STRUCTURE OF DEMAND GENERATION

Begin

Compute
Number
of
Units
Sold

> Begin
>
> Compute Number of Units Sold
> Due to Advertising Expenditures
>
> End

> Begin
>
> Compute Number of Units Sold
> Due to Sales Expenditures
>
> End

> Begin
>
> Compute Number of Units Sold
> Due to Administrative Operations
>
> End

> Begin
>
> Compute Number of Units Sold
> Due to Price
>
> End

> Begin
>
> Compute Number of Units Sold
> Due to Distribution Systems
>
> End

> Begin
>
> Compute Number of Units Sold
> Due to Business Cycle
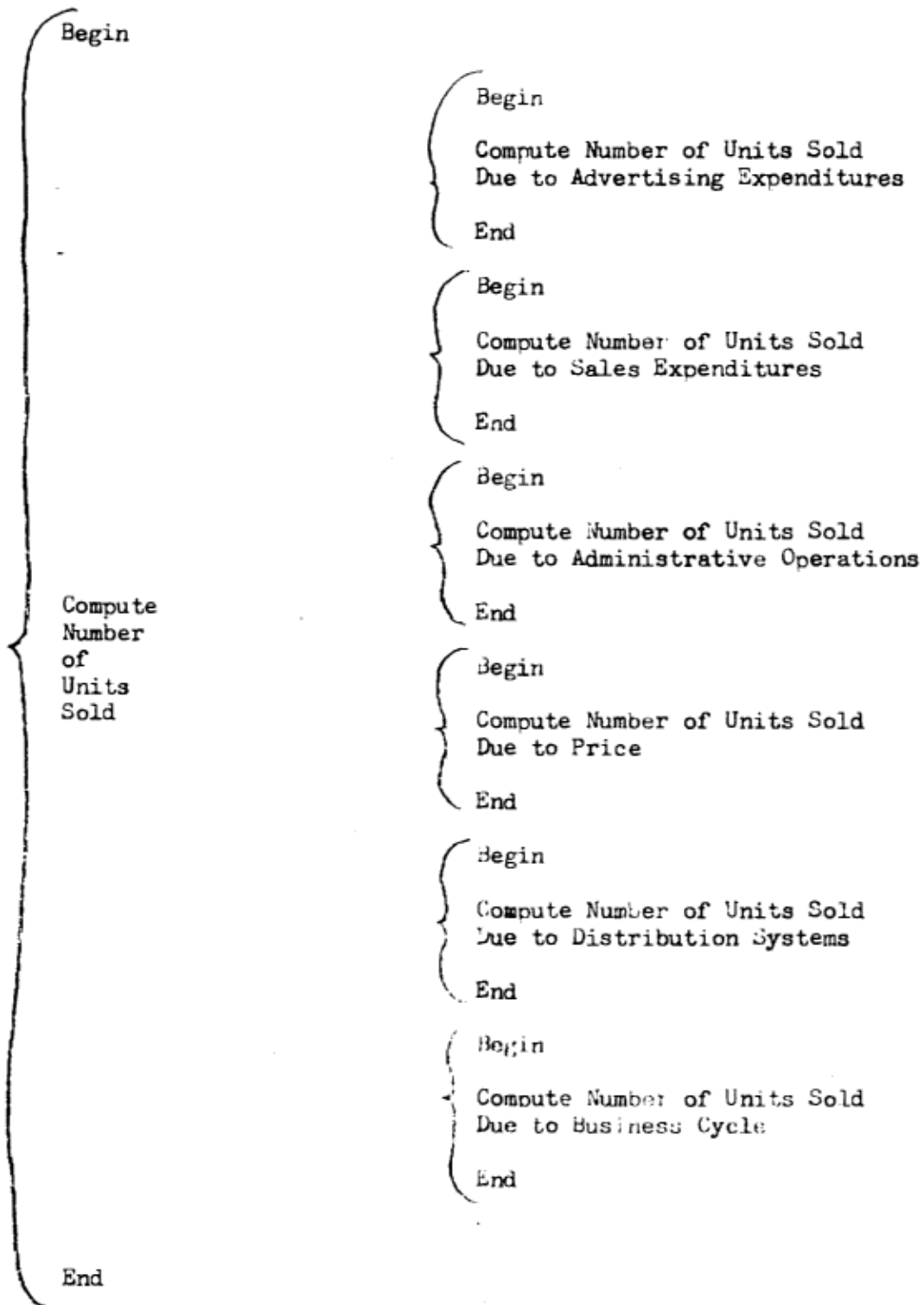>
> End

End

FIGURE III

STRUCTURE OF OPERATING EXPENDITURES

Begin

Compute Total Operating Expenses

Begin

Compute Cost of Goods Sold

Begin

Compute Cost of Goods Manufactured

End

Begin

Compute Cost of Goods Going to Inventory

End

Begin

Compute Inventory Storage Costs

End

Begin

Compute Cost of Goods Coming From Inventory

End

End

Begin

Compute Total Sales Expense

Begin

Compute Sales Salaries
Compute Advertising Expenses

End

End

Begin

Compute Total General and Administrative Expenses

Begin

Input Base General and Administrative Cost

End

Begin

Compute Administrative Operations

End

End

End