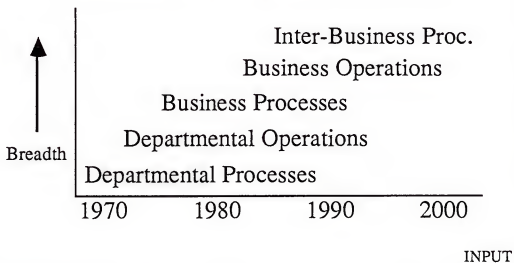


Information Systems Management
Challenges for the 1990s

INPUT



Breadth of the Relationship

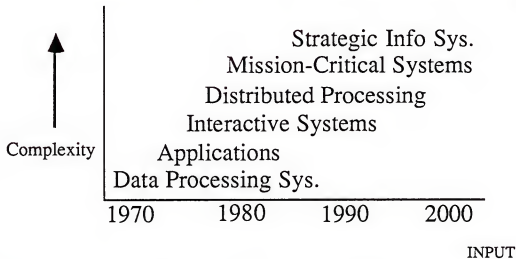


NOTES:

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Complexity of the Requirement

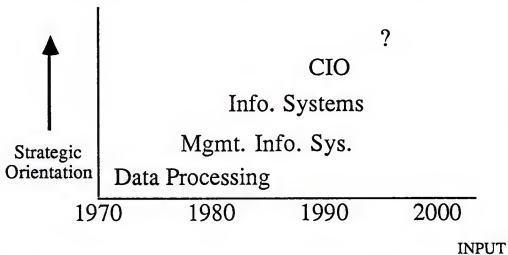


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Orientation of the Responsibility



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JJ88-DT1-7

Information Systems— Driving Forces

- Bottom-Line Return
- Rapid Response and Development
- Expanding Wealth of Technology
- International Competition
- Unstable Organizational Environment

INPUT

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JJ88-DT1-8



Information Systems—Major Issues

- Rising Management Expectations
- User Demands for Increasingly Complex Solutions
- Managing the Technology Investment
- Integration of Data/Technology/ Applications
- Delivery of Mission-Critical Systems

INPUT

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JJ88-DT1-9

the 1990s, the number of people aged 65 and over in the United States is projected to increase from 20 million to 35 million (U.S. Census Bureau 1996).

As the number of people aged 65 and over increases, the number of people aged 75 and over is also expected to increase. In 1990, there were 10 million people aged 75 and over in the United States. By 2000, the number is expected to increase to 15 million. By 2010, the number is expected to increase to 20 million (U.S. Census Bureau 1996). The increase in the number of people aged 75 and over is expected to be even more rapid than the increase in the number of people aged 65 and over.

As the number of people aged 75 and over increases, the number of people aged 85 and over is also expected to increase. In 1990, there were 3 million people aged 85 and over in the United States. By 2000, the number is expected to increase to 5 million. By 2010, the number is expected to increase to 7 million (U.S. Census Bureau 1996). The increase in the number of people aged 85 and over is expected to be even more rapid than the increase in the number of people aged 75 and over.

As the number of people aged 85 and over increases, the number of people aged 95 and over is also expected to increase. In 1990, there were 1 million people aged 95 and over in the United States. By 2000, the number is expected to increase to 2 million. By 2010, the number is expected to increase to 3 million (U.S. Census Bureau 1996). The increase in the number of people aged 95 and over is expected to be even more rapid than the increase in the number of people aged 85 and over.

As the number of people aged 95 and over increases, the number of people aged 100 and over is also expected to increase. In 1990, there were 200,000 people aged 100 and over in the United States. By 2000, the number is expected to increase to 400,000. By 2010, the number is expected to increase to 600,000 (U.S. Census Bureau 1996). The increase in the number of people aged 100 and over is expected to be even more rapid than the increase in the number of people aged 95 and over.

As the number of people aged 100 and over increases, the number of people aged 105 and over is also expected to increase. In 1990, there were 20,000 people aged 105 and over in the United States. By 2000, the number is expected to increase to 40,000. By 2010, the number is expected to increase to 60,000 (U.S. Census Bureau 1996). The increase in the number of people aged 105 and over is expected to be even more rapid than the increase in the number of people aged 100 and over.

As the number of people aged 105 and over increases, the number of people aged 110 and over is also expected to increase. In 1990, there were 2,000 people aged 110 and over in the United States. By 2000, the number is expected to increase to 4,000. By 2010, the number is expected to increase to 6,000 (U.S. Census Bureau 1996). The increase in the number of people aged 110 and over is expected to be even more rapid than the increase in the number of people aged 105 and over.

Information Systems— Blocking Factors

- Infrastructure Gridlock
- Lack of Qualified Personnel
- Existing Applications Portfolio
- Organizational Response Time

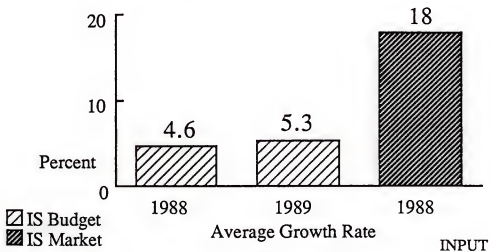
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JJ88-DT1-10

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Information Systems Budget Growth Rate

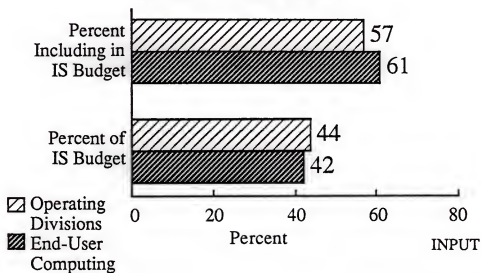


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JJ88-DT2-26



Information Systems Budget— What It Includes



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JJ88-DT2-24



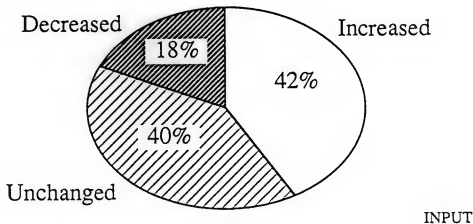
Application Development Trends

INPUT

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UANR-DT2-10

Application Development—Backlog 1987 versus 1988 Budget & Issue Survey



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JJ88-DT2-11



Application Development— Key Issues

Issue	Resp.
Productivity & Quality	38
Use of Technology	16
Responsiveness	14
Development Process	11

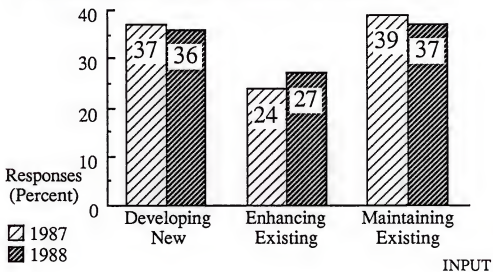
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JJ88-DT2-12a



Application Development Resources Allocation of Internal Resources



NOTES:

JJ88-DT2-13



Sources of Development Resources— New Projects

(Percent)

Source Resources	Packaged Software	Custom Develop.	TOTAL
Internal	22	78	56
Internal & External	52	48	44
TOTAL	35	65	100

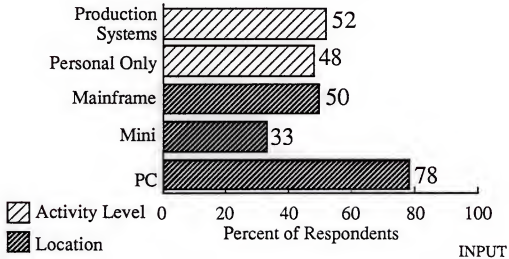
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Development by the End User

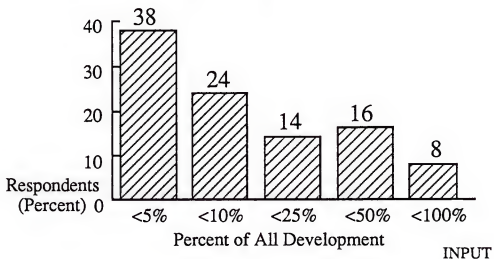


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JJ88-DT2-16



Development by the End User Percent of Total Development

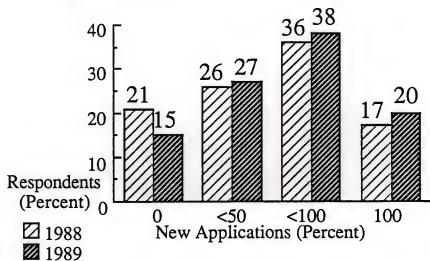


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Relational DBMS Application Magnitude of Mainframe Use



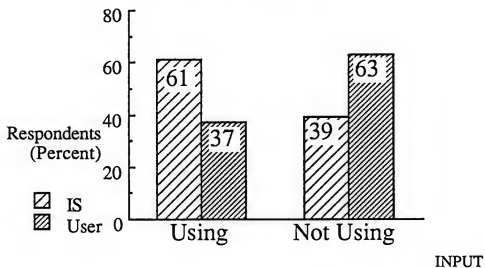
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Relational DBMS Application Who Is Using It?

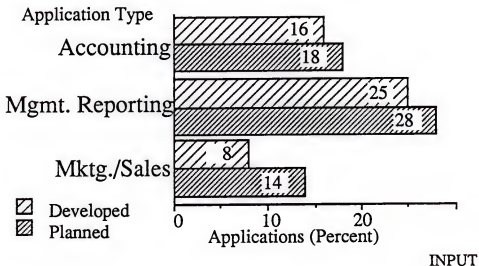


NOTES:

USM2-DT2-20



Relational DBMS Application How Is It Being Used?



NOTES:

USM2-DT2-23

the 1990s, the number of people aged 65 and over in the United States is projected to increase from 20 million to 35 million.

As the population of the United States grows older, the number of people who are dependent on others for their care is also expected to increase. The number of people aged 65 and over who are dependent on others for their care is projected to increase from 10 million in 1990 to 15 million in 2010.

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Applications Development Summary

- Backlog Will Never Go Away
- External Resources Becoming More Common

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JJ88-DT2-21a



Applications Development Summary

- End User Becoming a Force and Alternative
- Relational DBMS Use in Full Bloom
- Data Management Will Have to Change

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Data Management Trends

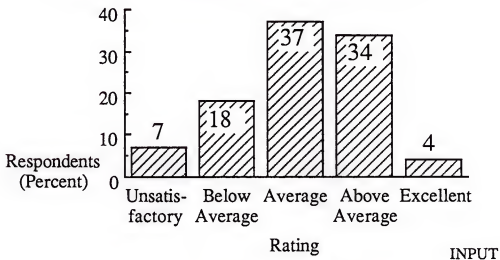
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Effectiveness of Data Management Function

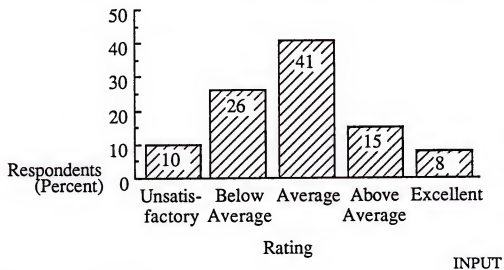


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JJ88-DT2-19



Effectiveness of Data Dictionaries

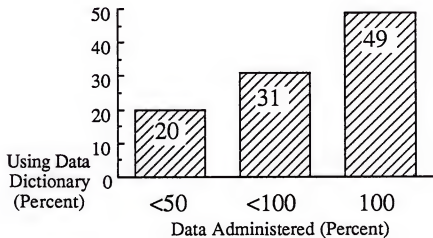


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USM2-DT2-11



Use of Data Dictionaries Data Administered



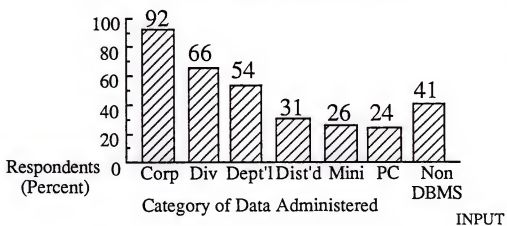
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Data Administration Breadth of Responsibility

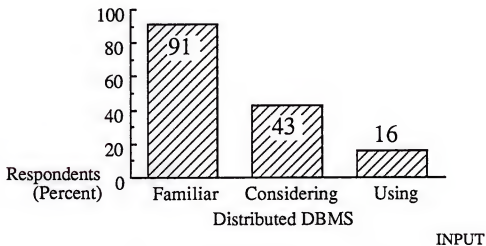


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Distributed DBMS Application What Is the Activity Level?



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USM2-DT2-28



Data Management Current Trends & Challenges Conclusions

- The Role Is Changing
- New DBMS Technology Is Being Used
- The End User Is Developing with RDBMS
- IS Management Needs to Increase Emphasis

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USM2-DT2-32



Impacts of New Technology

Driving Force:
Expanding Wealth of Technology

Major Issue:
Managing the Technology Investment

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Planned New Technologies

Category	Responses (Percent)
Voice, Image and Optical Storage and Retrieval	21
LANs & Dist'd Processing	13
Networking Connectivity	12
Intelligent Workstations	11
CASE & Application Development	10

INPUT

NOTES:

JJ88-DT2-36



Planned New Technologies

Category	Responses (Percent)
Application Solutions	9
AI and Expert Systems	8
DBMS	8
Electronic Data Interchange	4
Office Systems	3

INPUT

NOTES:

JJ88-DT2-37



Target for Information Systems Management 1990s

- Organization
- Network Environment
- Development Environment
- Responsibility Shift to User

INPUT

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JJ88-DT1-11



Federated IS Organization

Corporate IS	Unit IS
<ul style="list-style-type: none">• Competition• Partnerships• Standards• Corporate Systems• Corporate Policies	<ul style="list-style-type: none">• Customers• Business Support• Operating Systems• Policy

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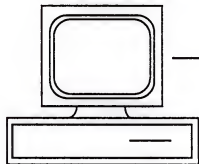
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Network Environment

Intelligent
Workstation =



Window to
Information Services

Local
Distributed
Central
External

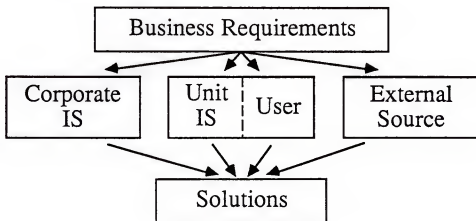
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Development Environment



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Responsibility Shift to User

- Manage Tier-Two & -Three Processing
- Do Significant Portion of Application Development
- Manage Tier-Two & -Three Data Bases
- Control Tactical IS Decisions
- Self Satisfy Information Appetite

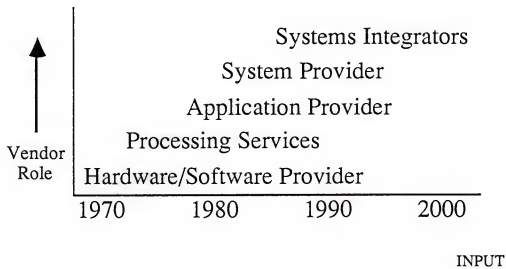
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Role of the IS Vendor

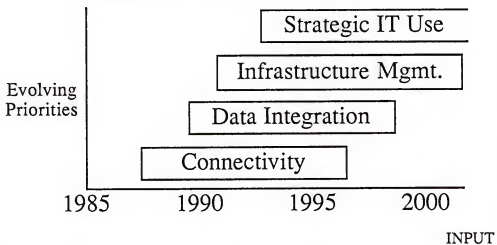


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Managing Information Systems—Future Phases



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Information Systems Emphasis

- Think Like an Operating Unit
- Flexibility in Use of Outside Resources
- Solutions Not Applications
- Keep an Eye on Competition
- Test the Link: IS Strategy to Business Strategy

INPUT

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JJ88-DT2-9



Information Systems Priorities—1989

- Audit the Data Management Function
- Review IS Budget Control Policies
- Review Use of External Products and Services

INPUT

NOTES:

JJ88-DT2-39a



Information Systems Priorities—1989

- Prepare End-User Support for the Next Wave
- Experiment with Connectivity
- Assign Responsibility for Standards

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NOTES:

JJ88-DT2-39b



Information Systems Priorities—Beyond 1989

- Clear Expectations of IS
- Identify Mission Critical Processes
- Application Development—Use All Alternatives

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JJ88-DT2-40a



Information Systems Priorities—Beyond 1989

- Data Management—Company-Wide Orientation
- Technology Architecture—Network Management
- Central IS—Consulting Role

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JJ88-DT2-40b



Corporate Information Systems Organization Style

- Smaller
- Expert Based—Technology and Business
- Consulting Style—Information Engineers and Solution Builders
- Marketeers for Technology

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JJ88-DT1-18



Information Systems Executive



An Internal "Systems Integrator"

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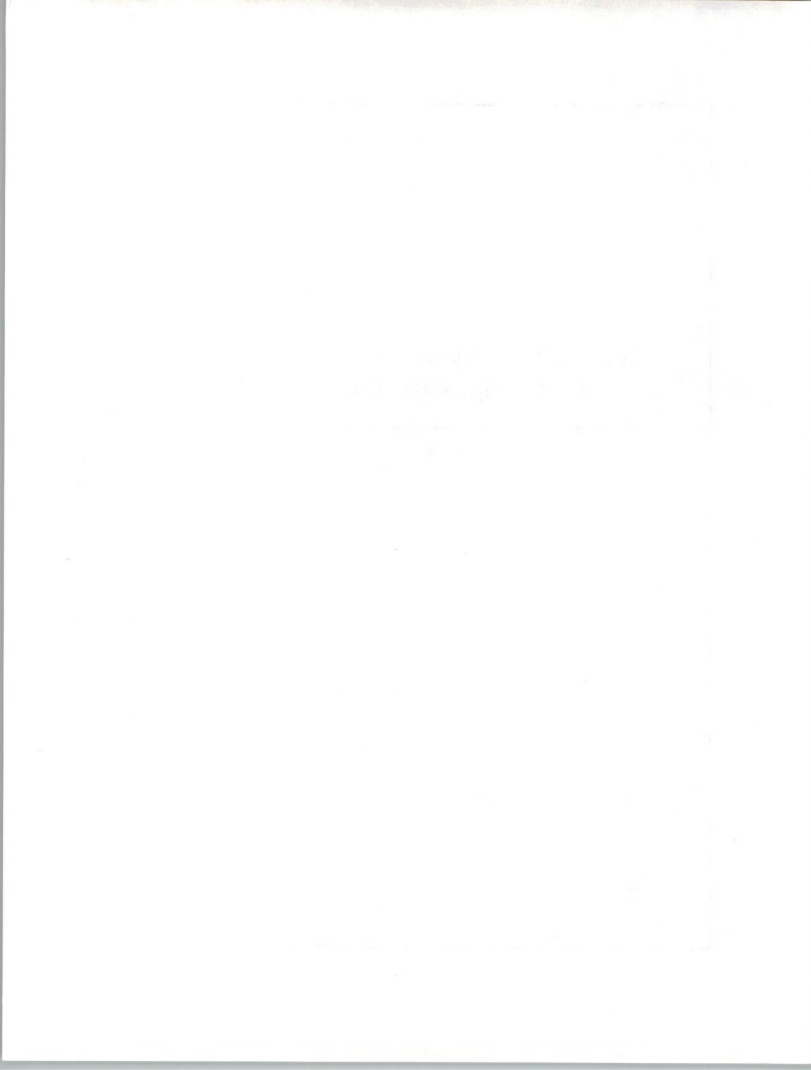
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Information Systems Management
Challenges for the 1990s

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Application Development Trends

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Data Management Trends

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CASE
(Computer-Aided
Systems Engineering)

Market and Opportunity

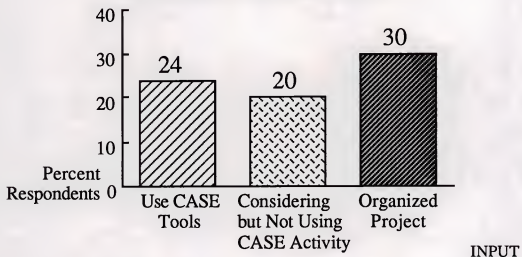
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User Perspective Activity with CASE



NOTES:

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Vendor Alliances Professional Services- Front End

Arthur Young

KnowledgeWare

Coopers & Lybrand

NASTEC

Deloitte Haskins
& Sells

Holland Systems/
Index Technology

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Electronic Data Interchange
(EDI)

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