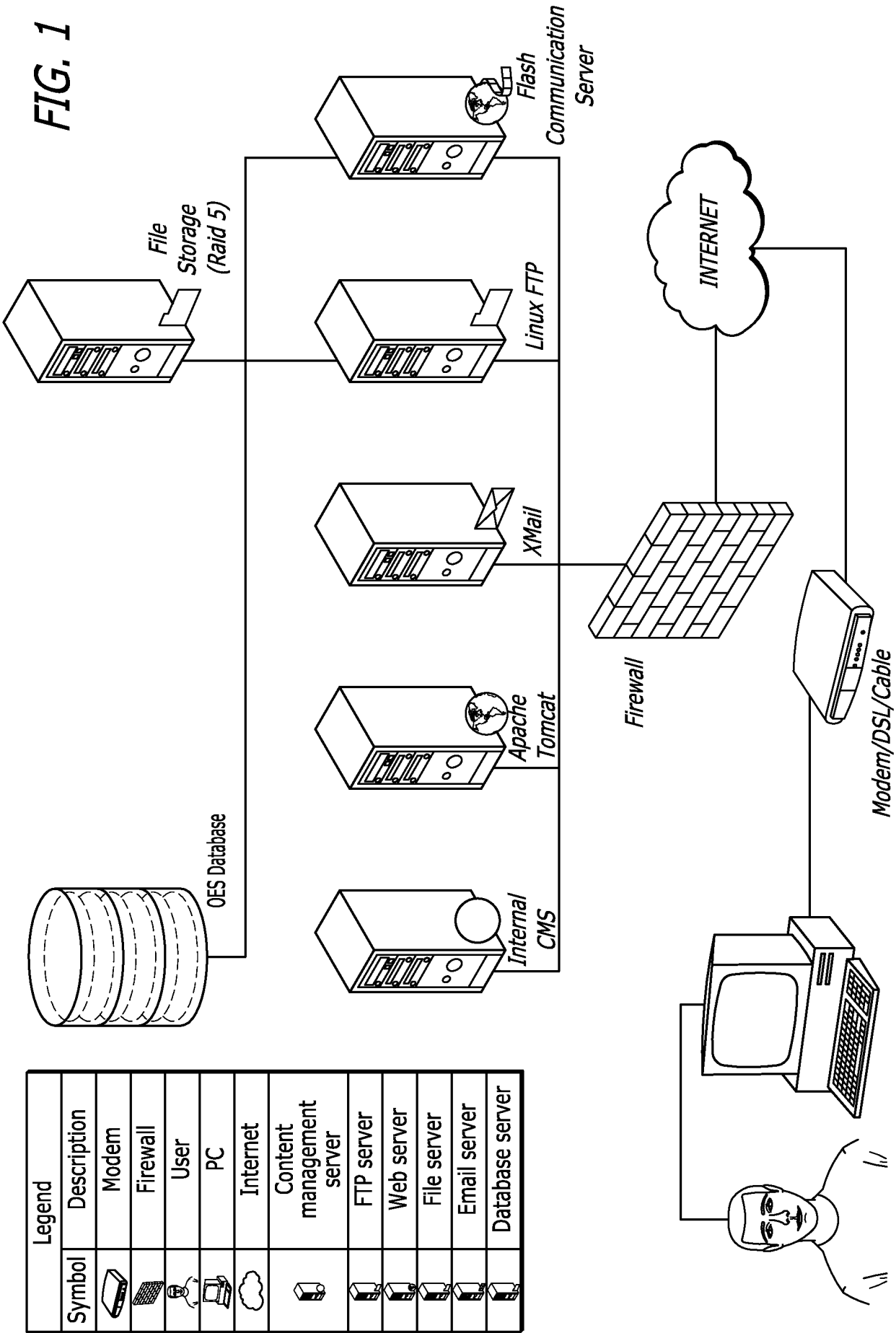


FIG. 1



Legend	
Symbol	Description
	Modem
	Firewall
	User
	PC
	Internet
	Content management server
	FTP server
	Web server
	File server
	Email server
	Database server

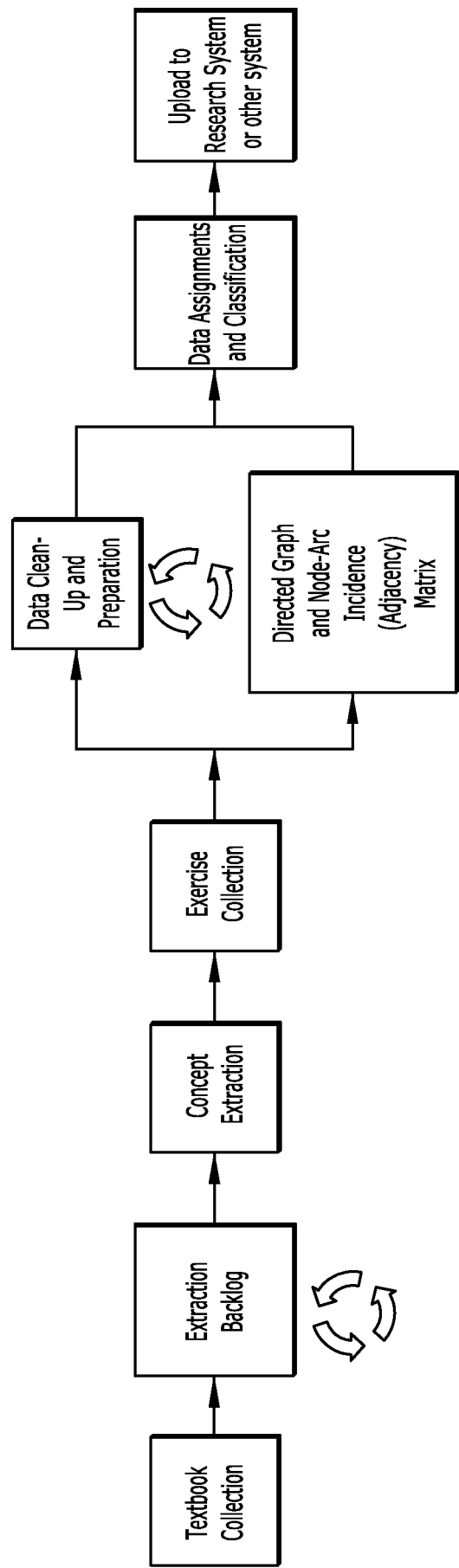
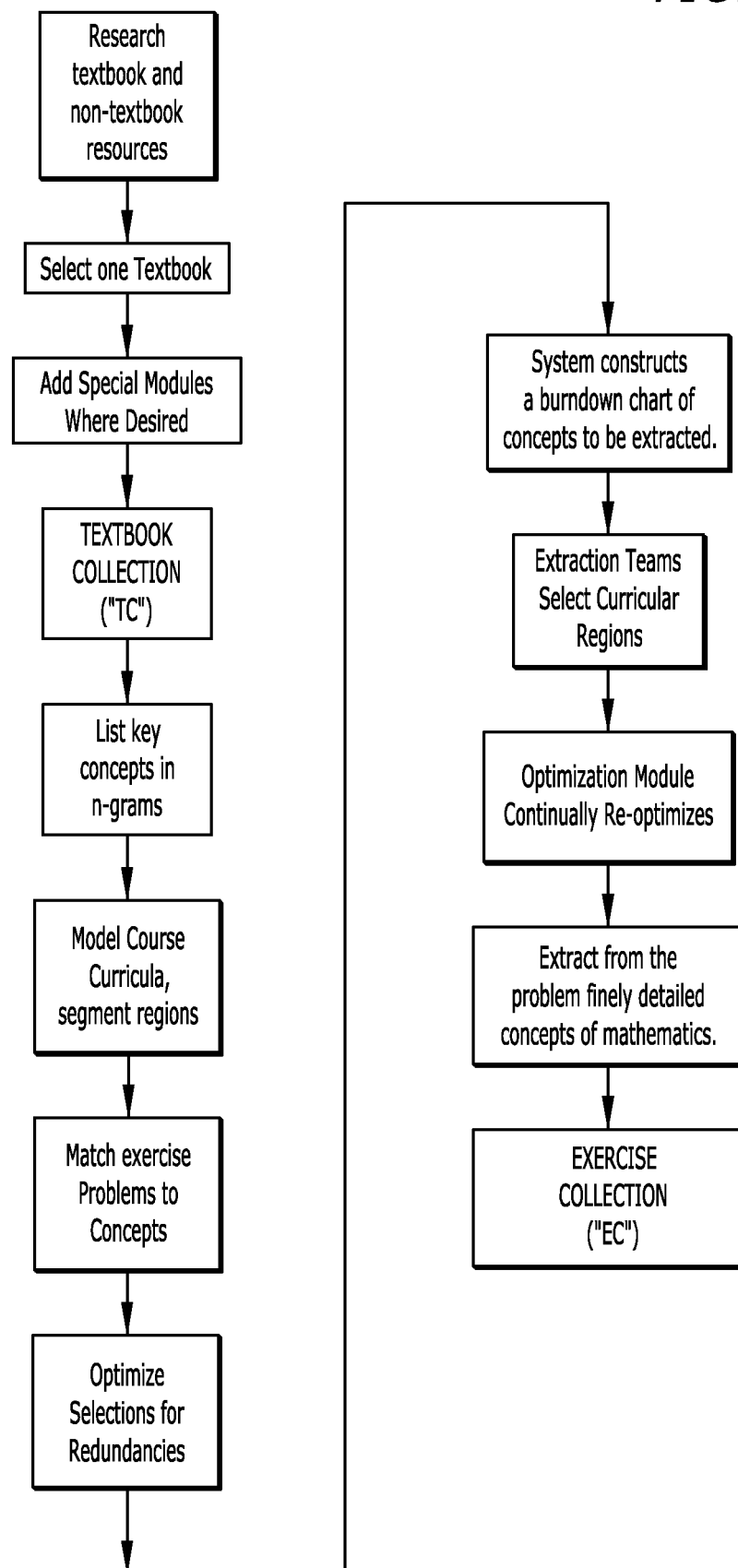


FIG. 3

FIG. 4

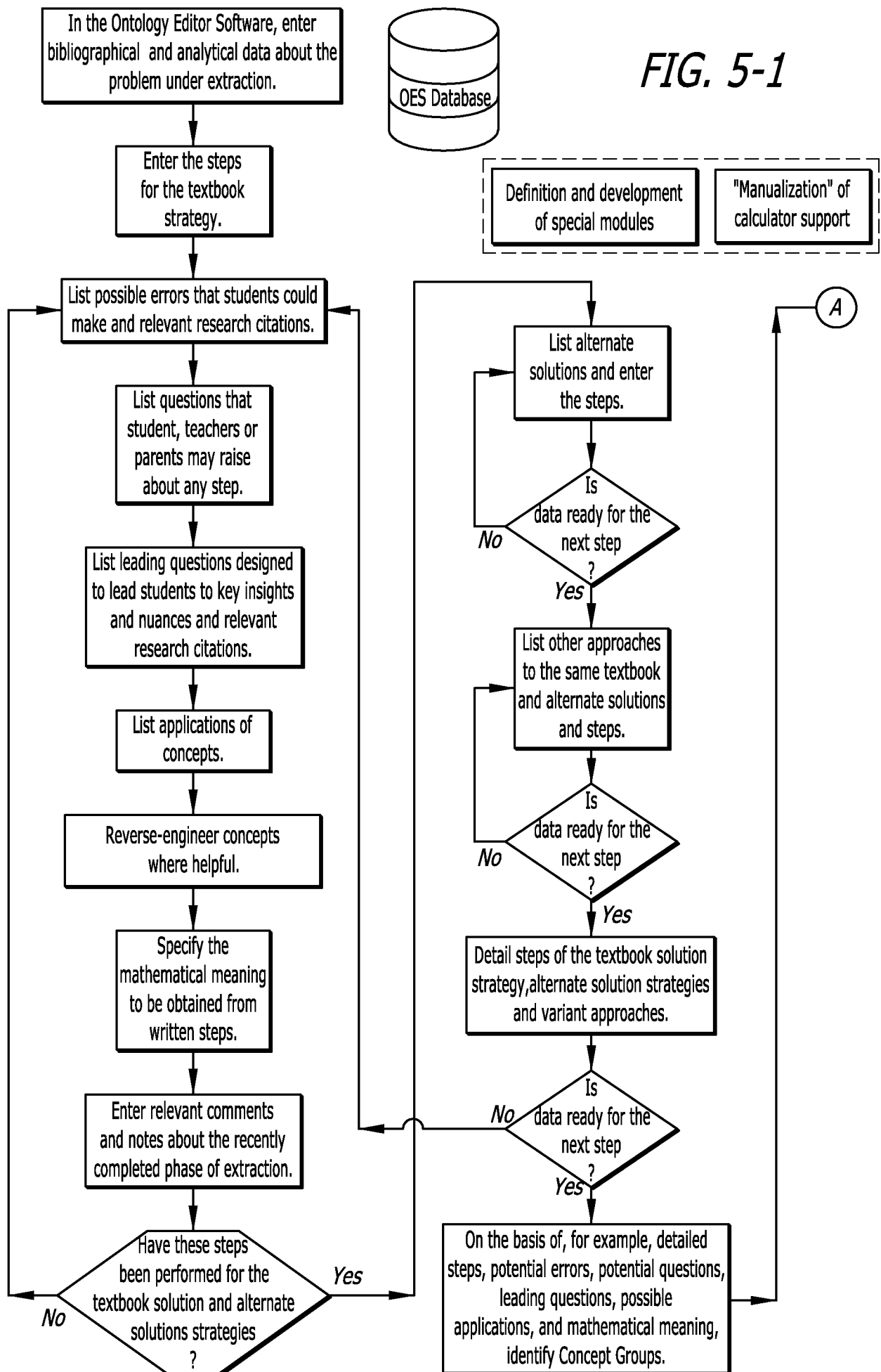


FIG. 5-2

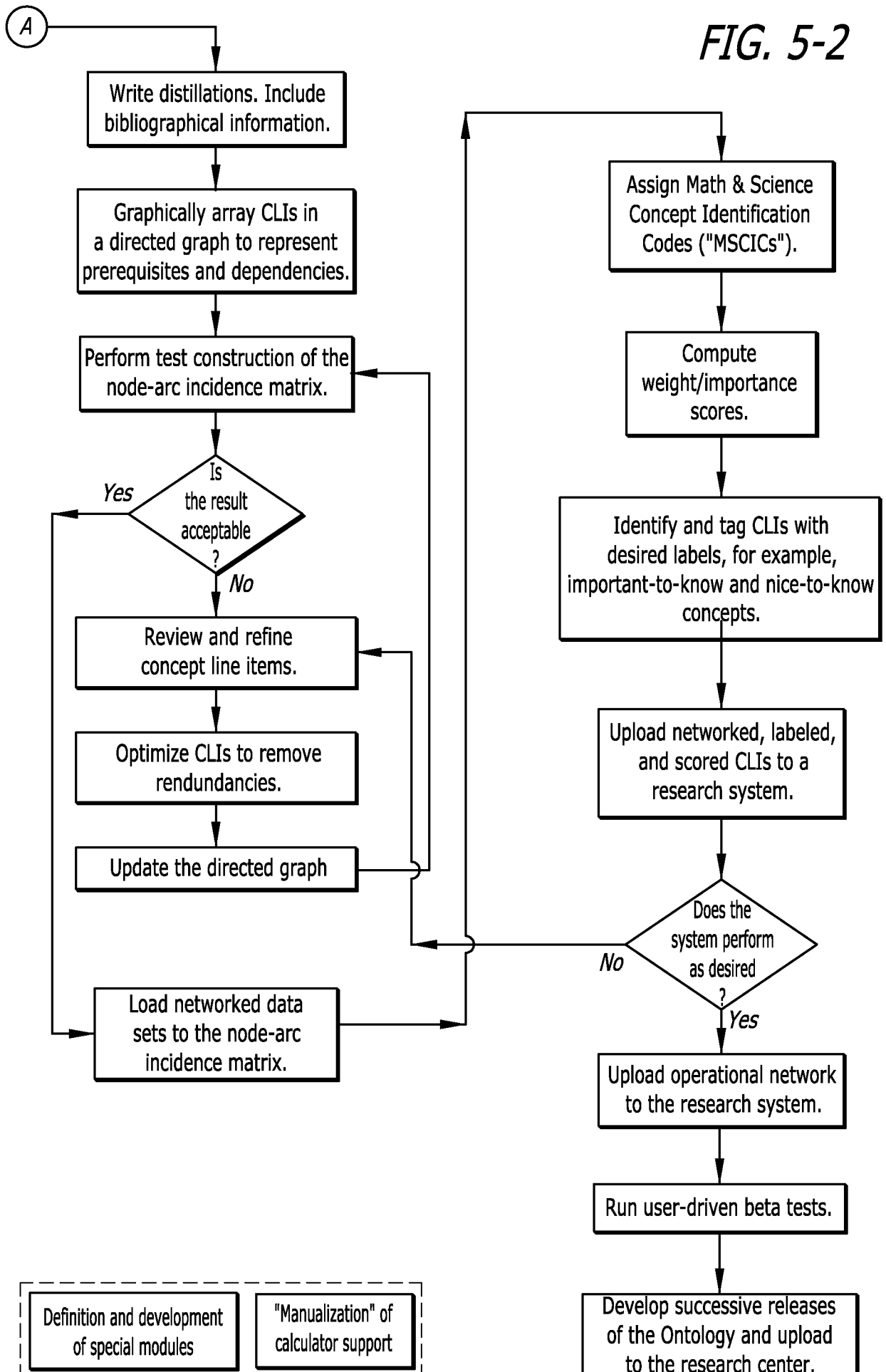


FIG. 6

Ontology Editor 2.1-Mark's Workspace

ConnectionWorkspaceMy BookmarksAdministrationEditHelp

CheckoutSave AllUpdateCommitRevertEquationTableUndoRedoCutCopyPasteShare...Backup to ServerSearch...WEB...

Kindergarten Ontology

1 Sets

1.1 Object classification

1.1.1 Sorting by One Attribute

1.1.1.1 Composed Units

1.1.1.1.2 Counting Elements

...

Line Item Details

Text: Integers

Importance: Level: 3: Unit Title Real Numbers

Must Know

Description: Version: #2-Edited History...

Book References

Reference Base

CLI Pairs

Flags

Equation Table Ref

Add Book Ref

Remove Book Ref

Browse...

Book Name

Page

Book A

126 145 231

Book B

42 54

Book C

76

Notes

Title	Type	Author	Date	Body	Issue Ref
Origin	Info	Alice	1/1/10	I discovered this...	
Revise	Audit	Bob	1/2/10	CLIs not upto...	1234
Revise	Audit	Cathy	1/2/10	Also the reference...	1235

Candidate Dependencies

Redundancies Management:

Incoming Links

Outgoing Links

2.1 Counting ...

Add Edit Remove

4.1 Addition ...

Parking Lot

New Parking Lot

Delete Parking Lot

Down

Up

Lot One

Lot Two

Lot Three

Lot Four

1.1 Addition

1.1.1 Subtraction

FIG. 7

Kindergarten Ontology

1 Sets

1.1 Object classification

1.1.1 Sorting by One Attribute

1.1.1.1 Composed Units

1.1.1.1.2 Counting Elements

...

FIG. 8

Line Item Details

Text: Integers

Importance: Must Know

Level: 3: Unit Title

Parent: Real Numbers

Description: Version: #2-Edited

History ...

Book References

Reference Base

CLI Pairs

Flags

Equation

Table Ref

Add Book Ref

Remove Book Ref

Browse...

Book Name

Page

Book A126 145 231

Book B42 54

Book C76

Notes

Redundancies Management:

Incoming Links

2.1 Counting ...

Outgoing Links

Add

Edit

Remove

4.1 Addition ...

Title

Type

Author

Date

Body

Issue Ref

Origin

Info

Alice

1/1/10

I discovered this...

Revis

Audit

Bob

1/2/10

CLIs not upto...

Revis

Audit

Cathy

1/2/10

Also the reference...

1234

1235

Candidate Dependencies...

FIG. 9

History of Line Item Development (This is not intended to deal with the line items about the history of Mathematics)

Name:

Type:

Parent:

Version:

Importance:

Description:

Book References

Add Book Ref

Remove Book Ref

Browse...

Book Name

Page

Book A

126 145 231

Book B

42 54

Book C

76

Equation Table Ref

Flags

CLI Pairs

Reference Base

Notes

Title	Type	Author	Date	Body	Issue Ref

Incoming Links

2.1 Counting ...

Add

Edit

Remove

4.1 Addition ...

Outgoing Links

Change History

Version #	Author	Log	Date
0	Alice	Initial version added.	01/01/10
1	Alice	Added a place holder and defined a dependency to Addition unit title.	01/02/10
2	Bob	Added a note	01/04/10
3	Bob	Added a note	01/05/10

History of Line Item Development (This is not intended to deal with the line items about the history of Mathematics)

Name: Integers

Type: Unit Title

Imp: Must Know Parent: Version: # 0

Description: Real Numbers

Book References

Reference Base

CLI Pairs

Flags

Equation Table Ref

Book Name

Book A

Book B

Book C

Page

126 145 231

42 54

76

Notes

Incoming Links

2.1 Counting ...

Outgoing Links

4.1 Addition ...

Title

Type

Author

Date

Body

Issue Ref

Name: Integers

Type: Unit Title

Imp: Must Know Parent: Version: # 0

Description: Real Numbers

Book References

Reference Base

CLI Pairs

Flags

Equation Table Ref

Book Name

Book A

Book B

Book C

Page

126 145 231

42 54

76

Notes

Incoming Links

2.1 Counting ...

Outgoing Links

4.1 Addition ...

Title

Type

Author

Date

Body

Issue Ref

FIG. 10

Flags

Add Flag

Remove Flag

International

Fundamental Concept

FIG. 11

Book References

Reference Base

CLI Pairs

Flags

Equation Table Ref

Add Book Ref

Remove Book Ref

Browse...

Book Name	Page
Book A	126 145 231
Book B	42 54
Book C	76

FIG. 12

Book A Details

Properties

Title:

Book A

Authors:

Giral et al

ISBN:

123

Publisher:

Free Books

City:

San Francisco

Country:

USA

Number of Pages:

321

Copyright Date:

01/01/10

Cover

Book A, Firal et al. ISBN: 123

Practical
Algebra

A Self-Teaching
Guide

FIG. 13

Candidate Dependencies

Identified Candidates:

Sequence # ▾	Phrase	Importance	Promote as Item	
1	non-zero natural numbers	Must Know ▾	☒	▲
2	subset of the real numbers	▾	☐	
3	fractional	Nice to Know ▾	☒	▼

OK Cancel

FIG. 14

Parking Lot

New Parking Lot Open Save Save As Down Up + -

Lot One Lot Two Lot Three Lot Four

1.1 Addition

1.1.1 Subtraction

FIG. 15

FIG. 16

Equation Table

AddRemove

Example Type	Textbook Problem	Chapter Title	Sub-Section
Word Problem	"It is 5:45 A.M. daylight savings time the first Sunday in April. What time was it 6 hours and 45 minutes ago?"	Time	3.16

AddRemove

Distillations (Concept Line Items)

Rationale and Comments:

OKCancel

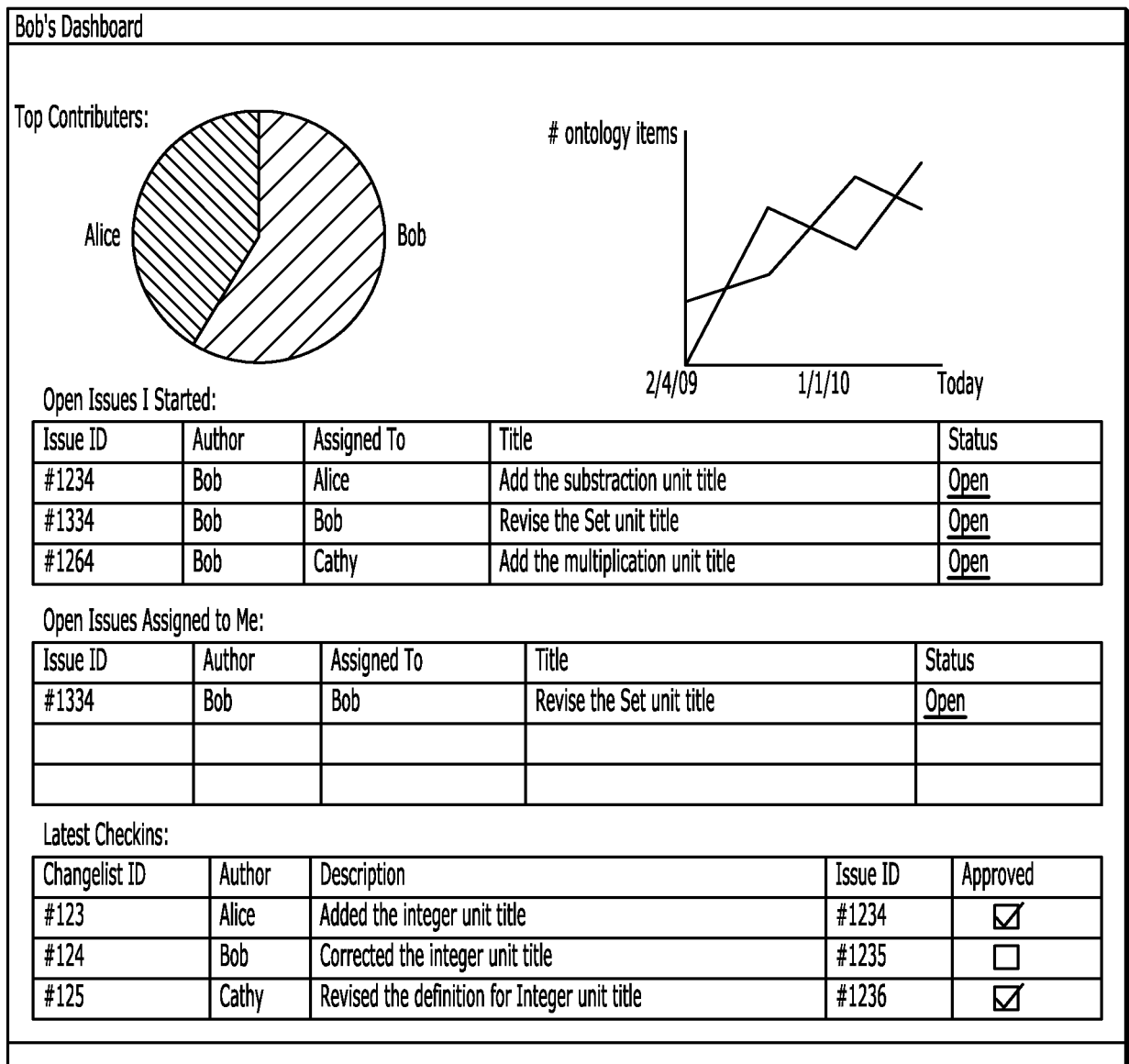
FIG. 17

FIG. 18

Node-Arc Incidence Matrix

Edit

Lock

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

OK

Cancel

FIG. 19

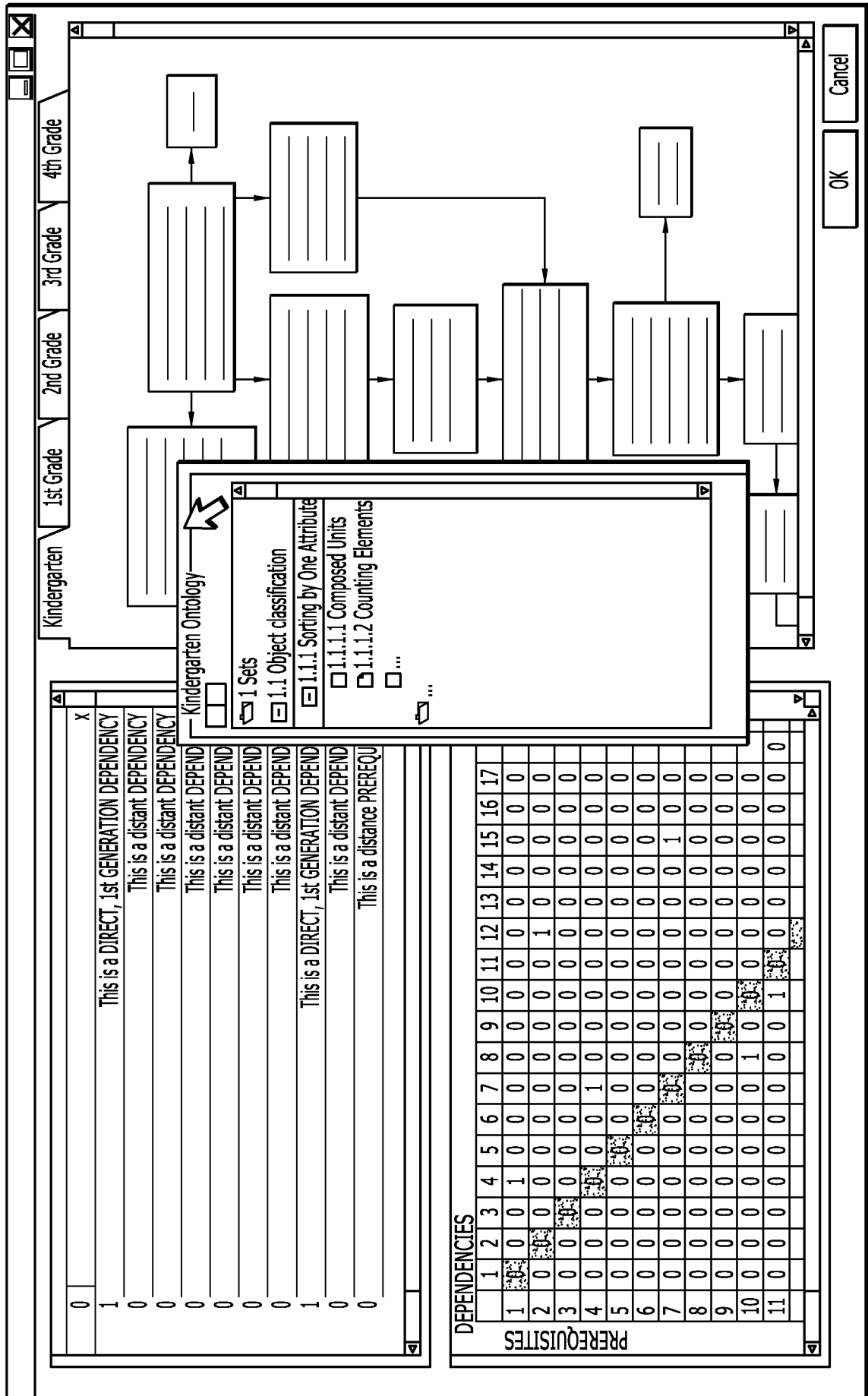


FIG. 20

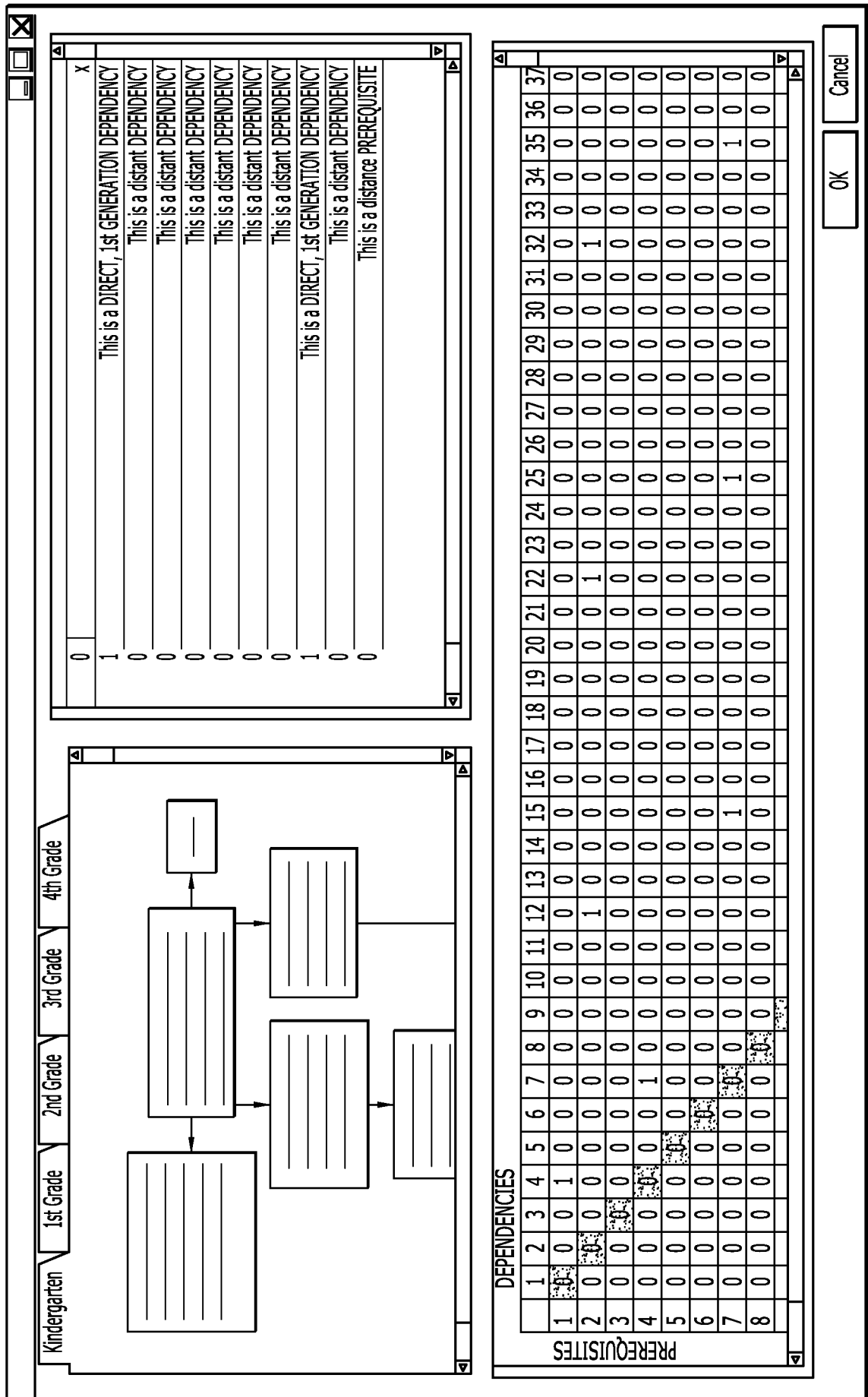


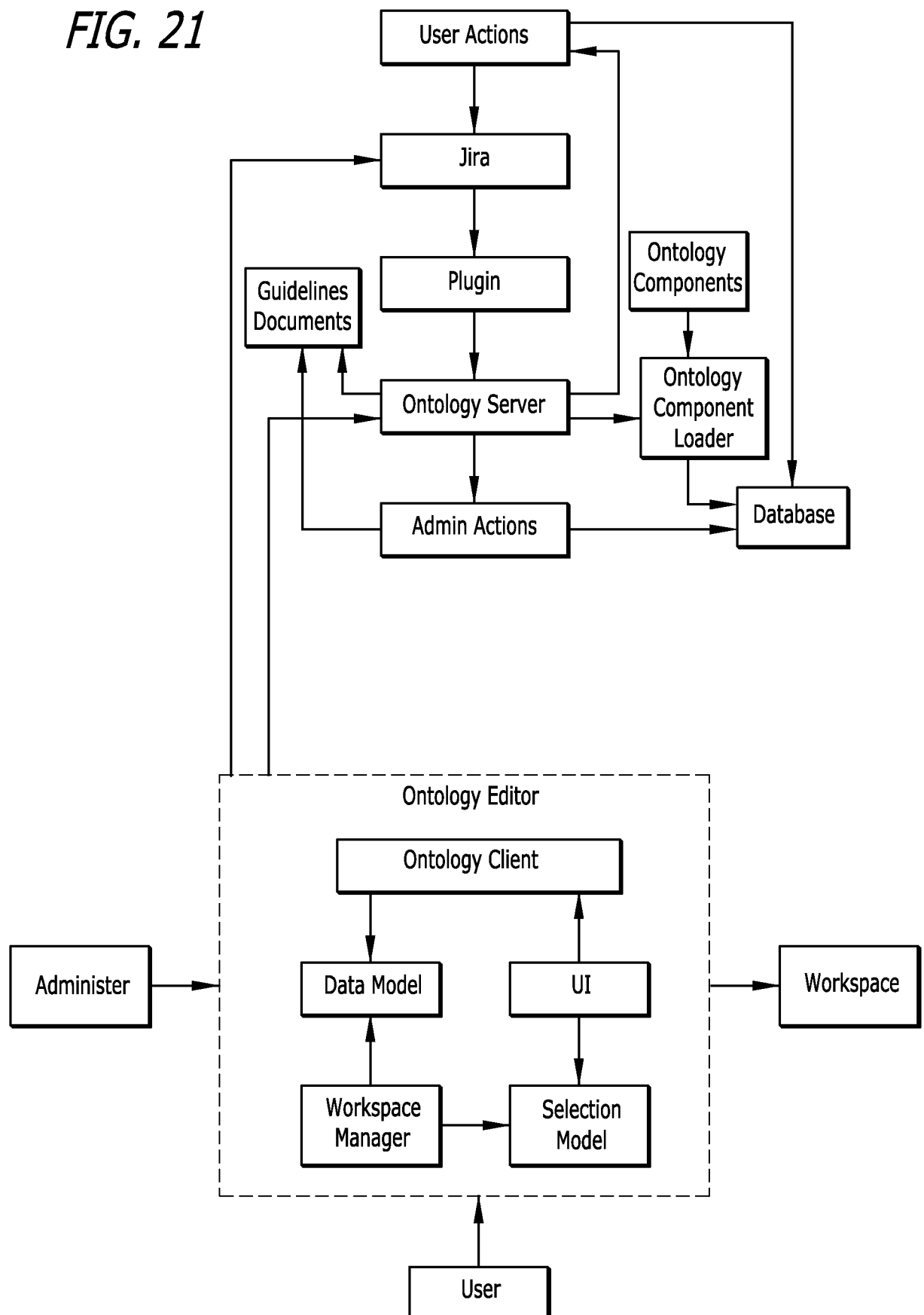
FIG. 21

FIG. 22

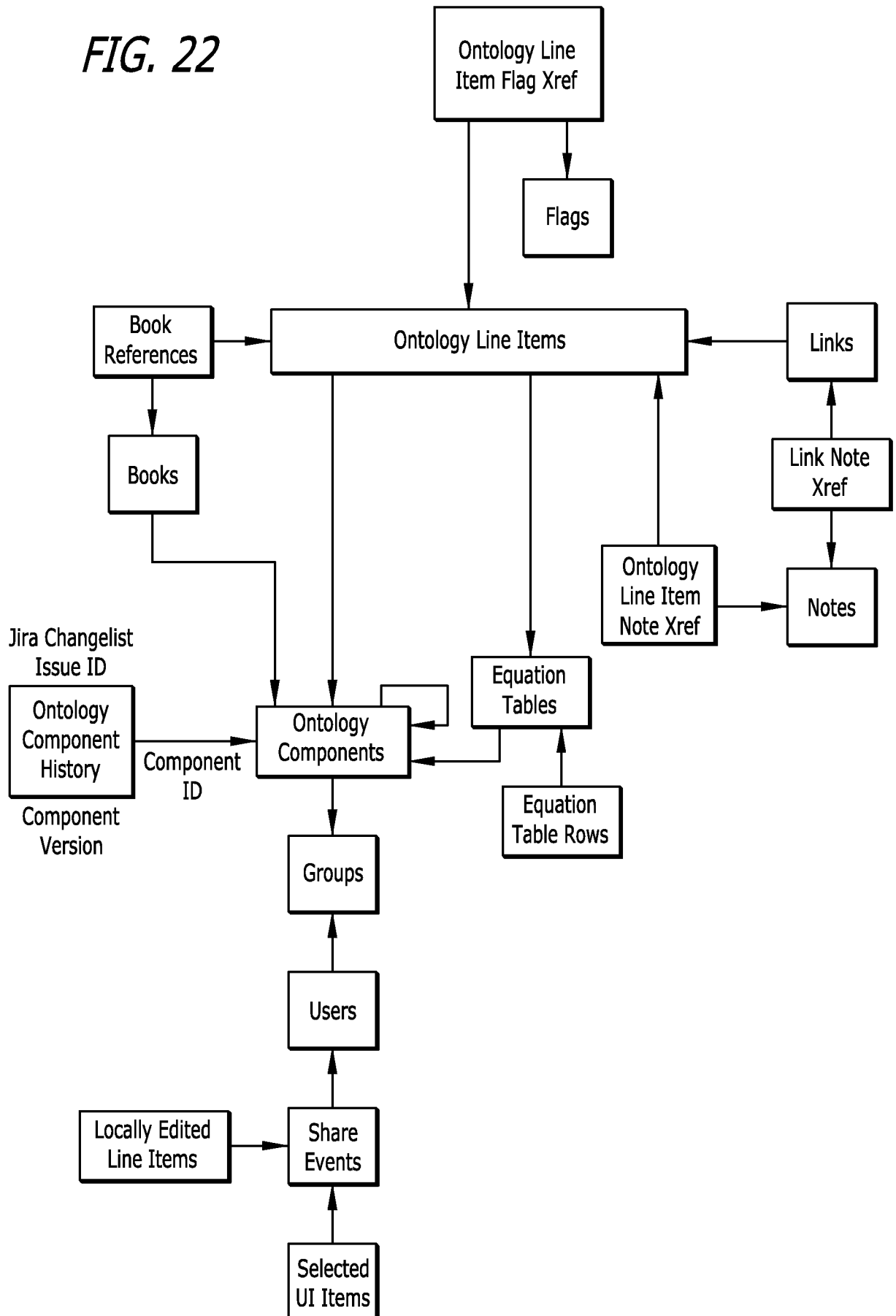


FIG. 23

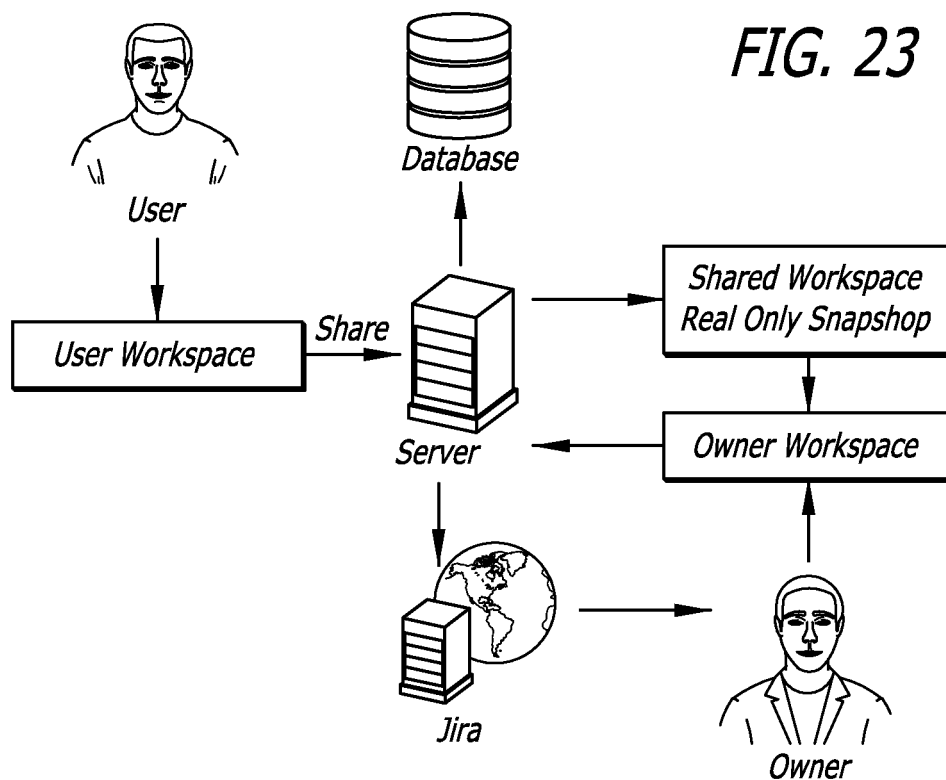


FIG. 24

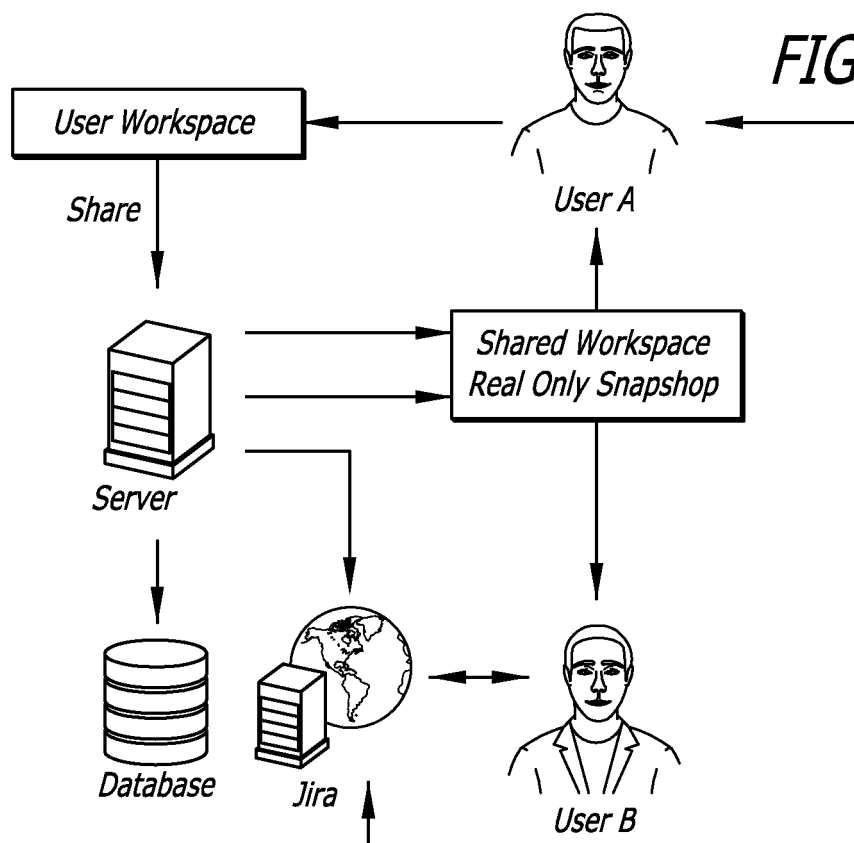


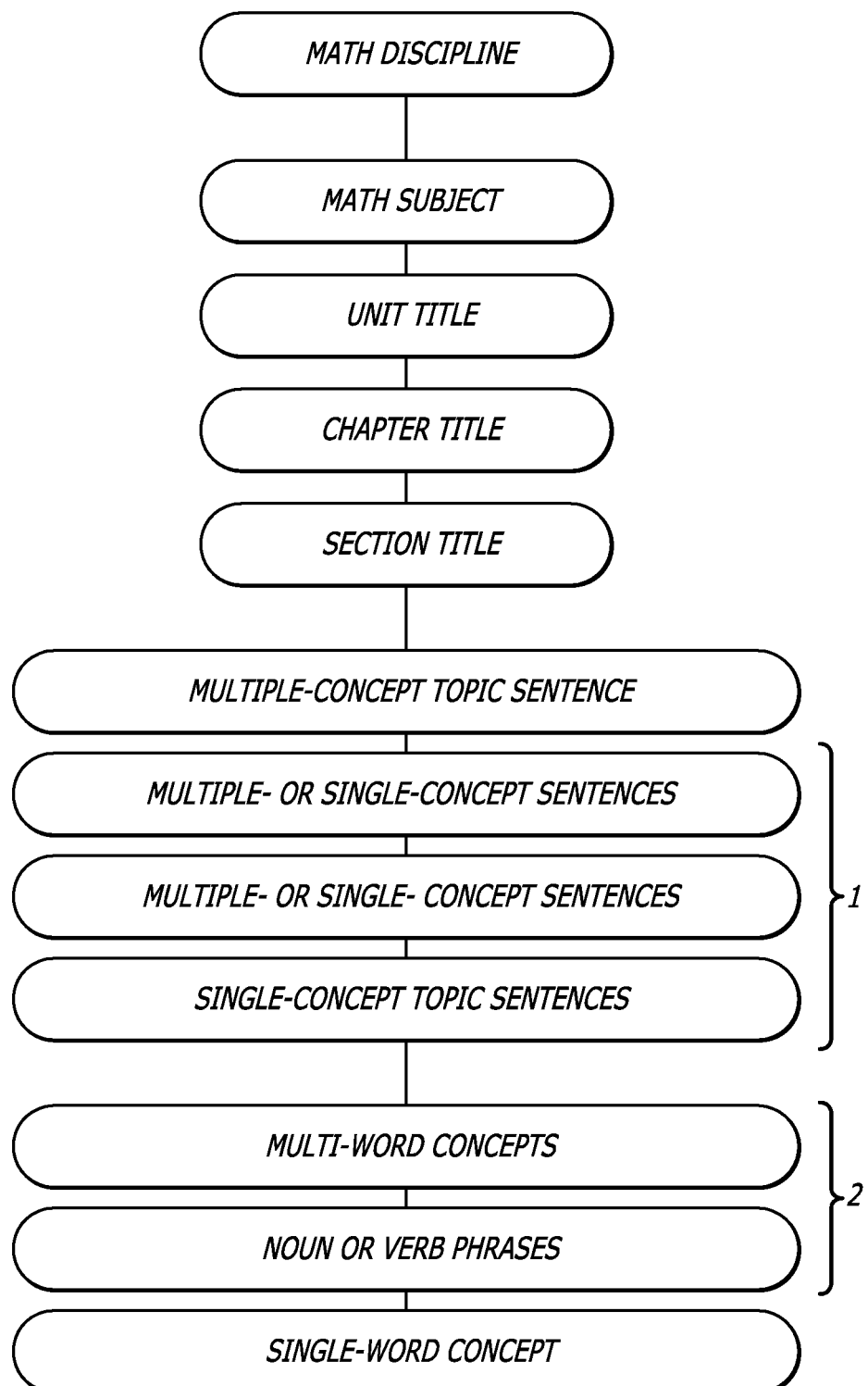
FIG. 25

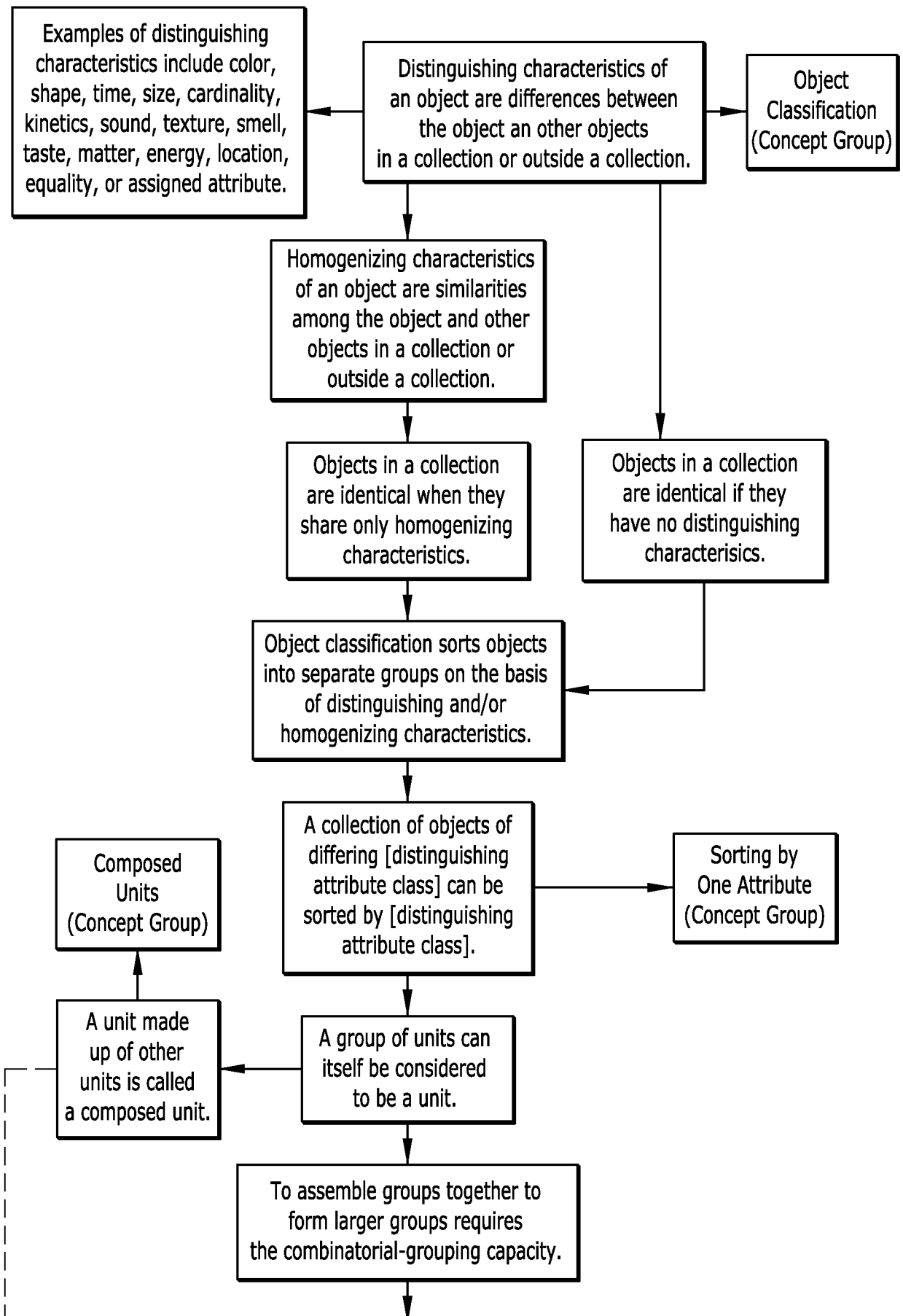
FIG. 26-1

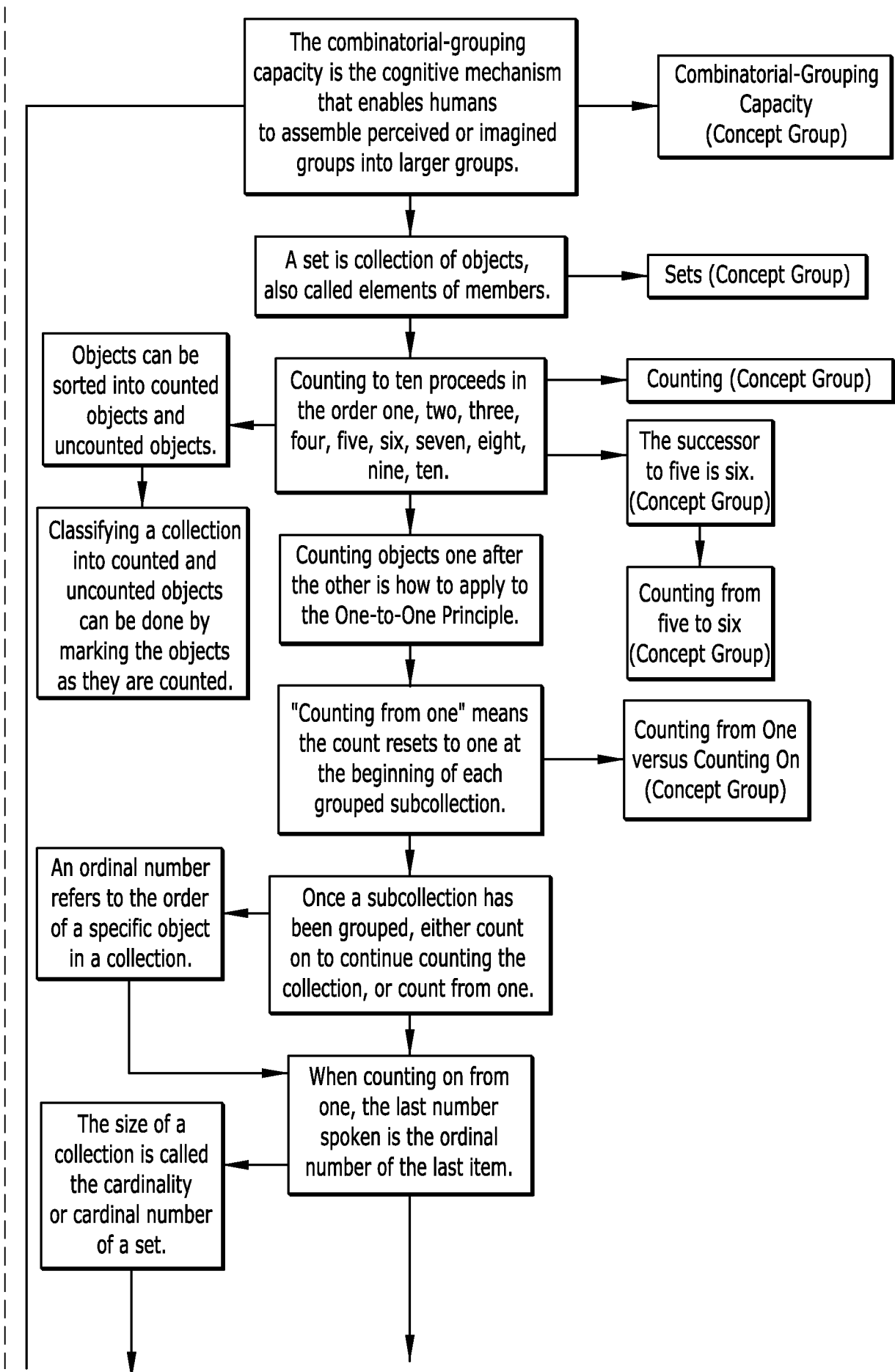
FIG. 26-2

FIG. 26-3

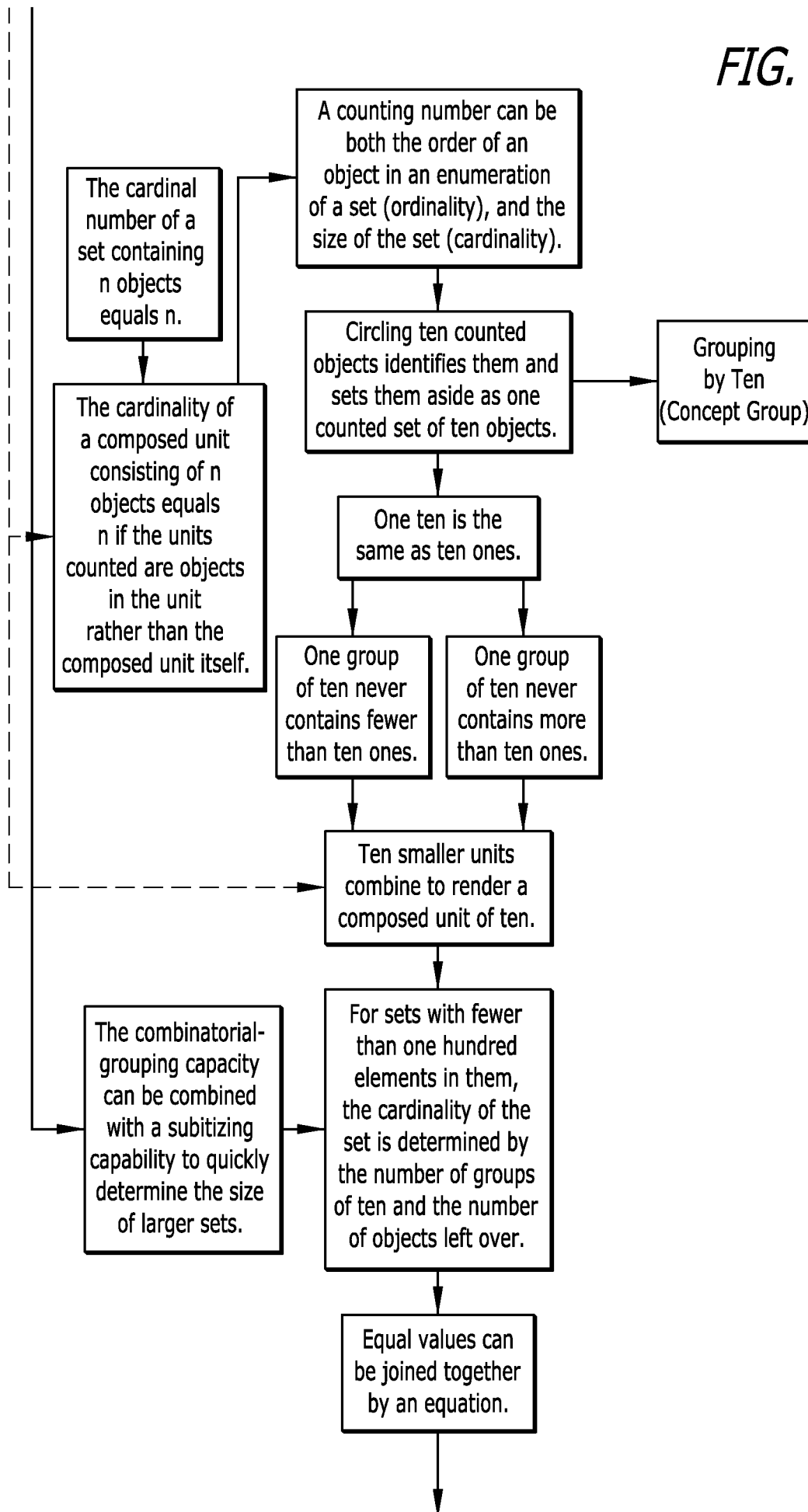
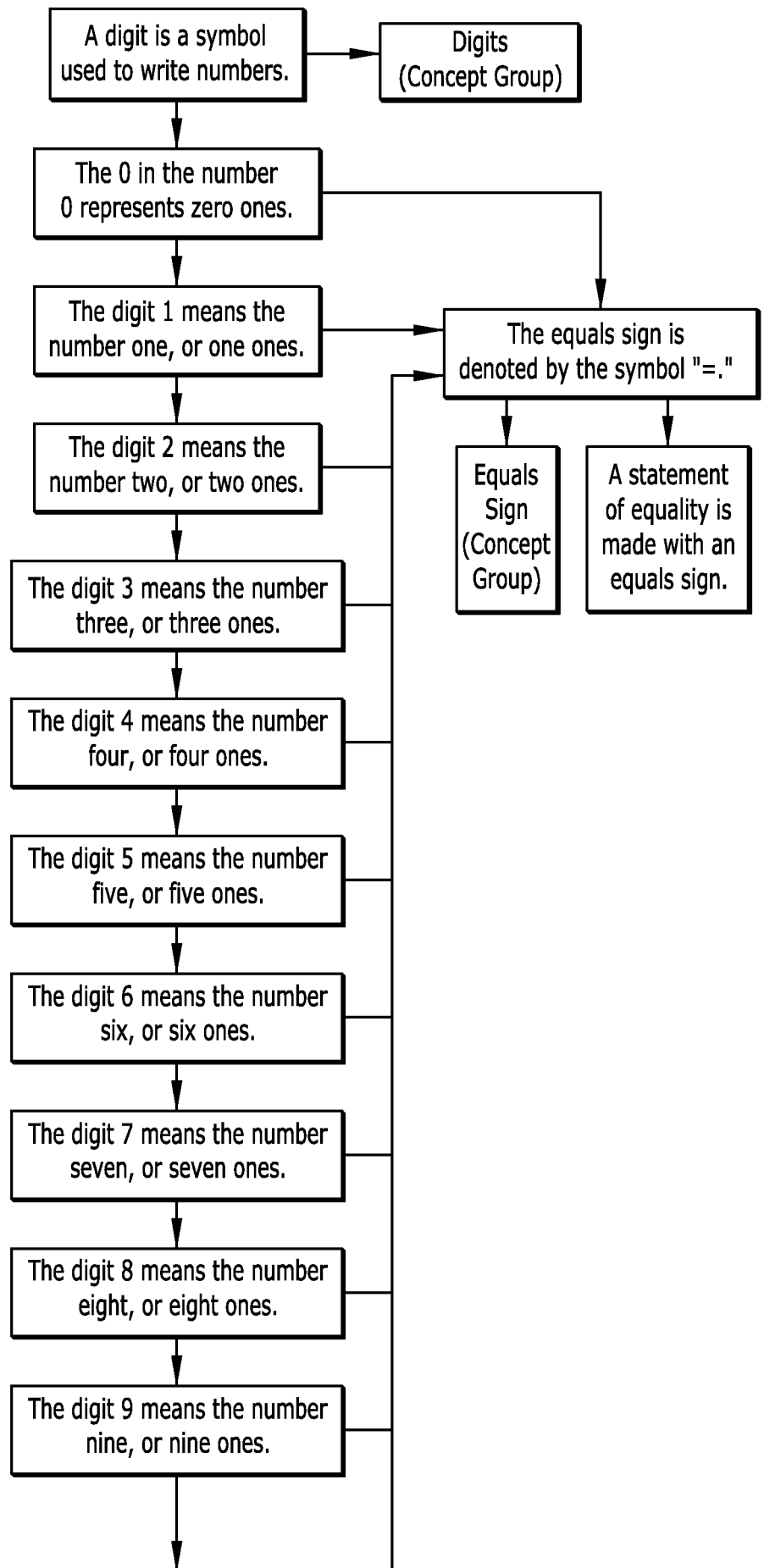


FIG. 26-4

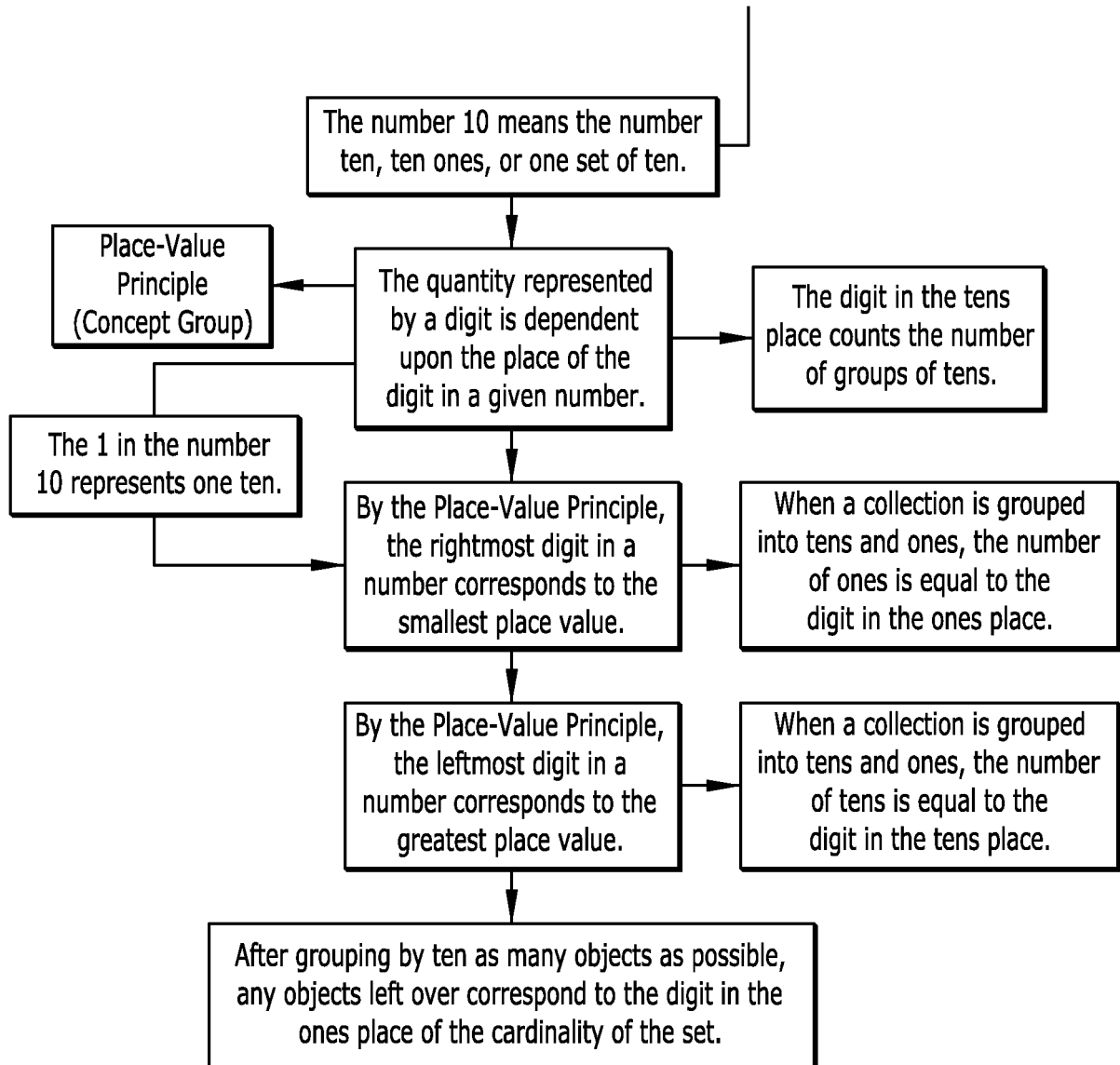
*FIG. 26-5*

FIG. 27

Figure 1 is a form titled "Phase 1: Bibliographic Information and Basic Analysis". The form is divided into two main sections: "Bibliographic Information" and "Basic Analysis".

Bibliographic Information:

- Grade Level or Math Subject: K
- Textbook Title: Early bird kindergarten Mathematics 2B
- Example ID or Exercise Problem #: n/a
- Chapter Number: 14
- Page Number Where the Exercise is Found: 63
- Is a calculator required? No
- Is a special module required? No
- Country of Textbook (e.g., U.S., Singapore, Russia): Singapore
- Is this a Special-Purpose Exercise (S.P.E.)? No
- Total Hours for Extraction: (-)

Basic Analysis:

The Basic Analysis section is divided into four parts, each with a complexity score:

- Part 1:** Type of Exercise Problem. (1) Expository (2), (2) Mixed Concept (2), (3) Proof (2), (4) Application (2).
- Part 2:** Degree of Complexity for This Age Group. (5) Simple (6), (6) Moderately Simple (6), (7) Moderately Complex (6), (8) Complex (6), (9) Advanced (6).
- Part 3:** Type of Example, Proof, or Exercise Problem. (10) Algorithmic Problem (12), (11) Word Problem (12), (12) Graphic Generation/Graphic Interpret'n Problem (12), (13) Geometric Problem (12).
- Part 4:** Concept Content. (15) Discussed and explained in the textbook (16), (16) Not discussed and explained in the textbook (16), (17) Advanced concepts or applications of concepts (16).

The form includes a title bar with standard window controls and buttons for "OK" and "Cancel".

FIG. 28

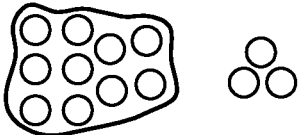
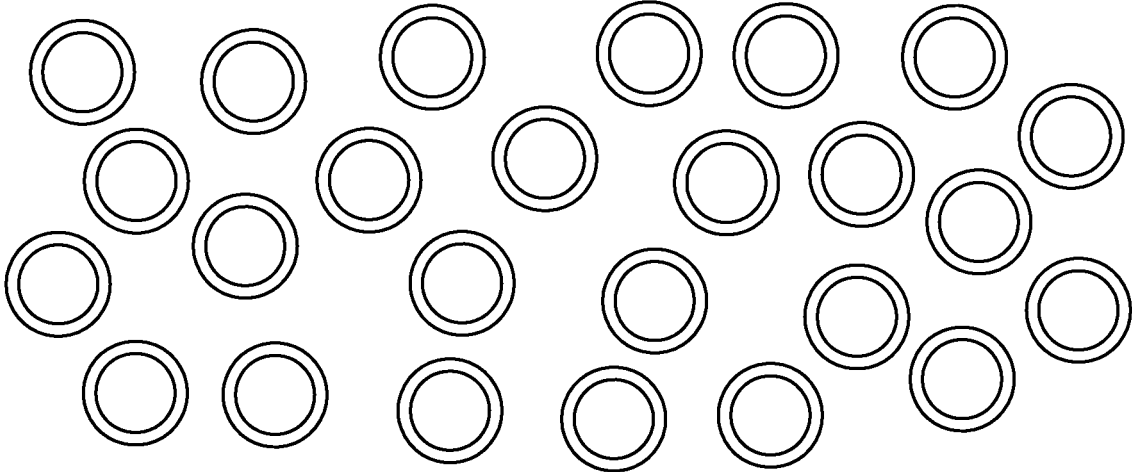
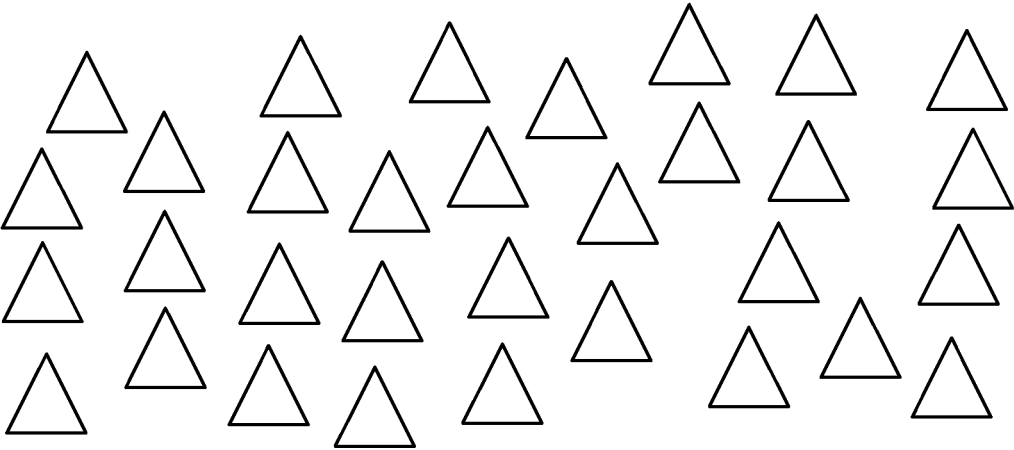
<p>Circle sets of 10. Then count and write.</p>	 <p>1 ten 3 ones = <u>13</u></p>
 <p>_____ tens _____ ones = _____</p>	
 <p>_____ tens _____ ones = _____</p>	

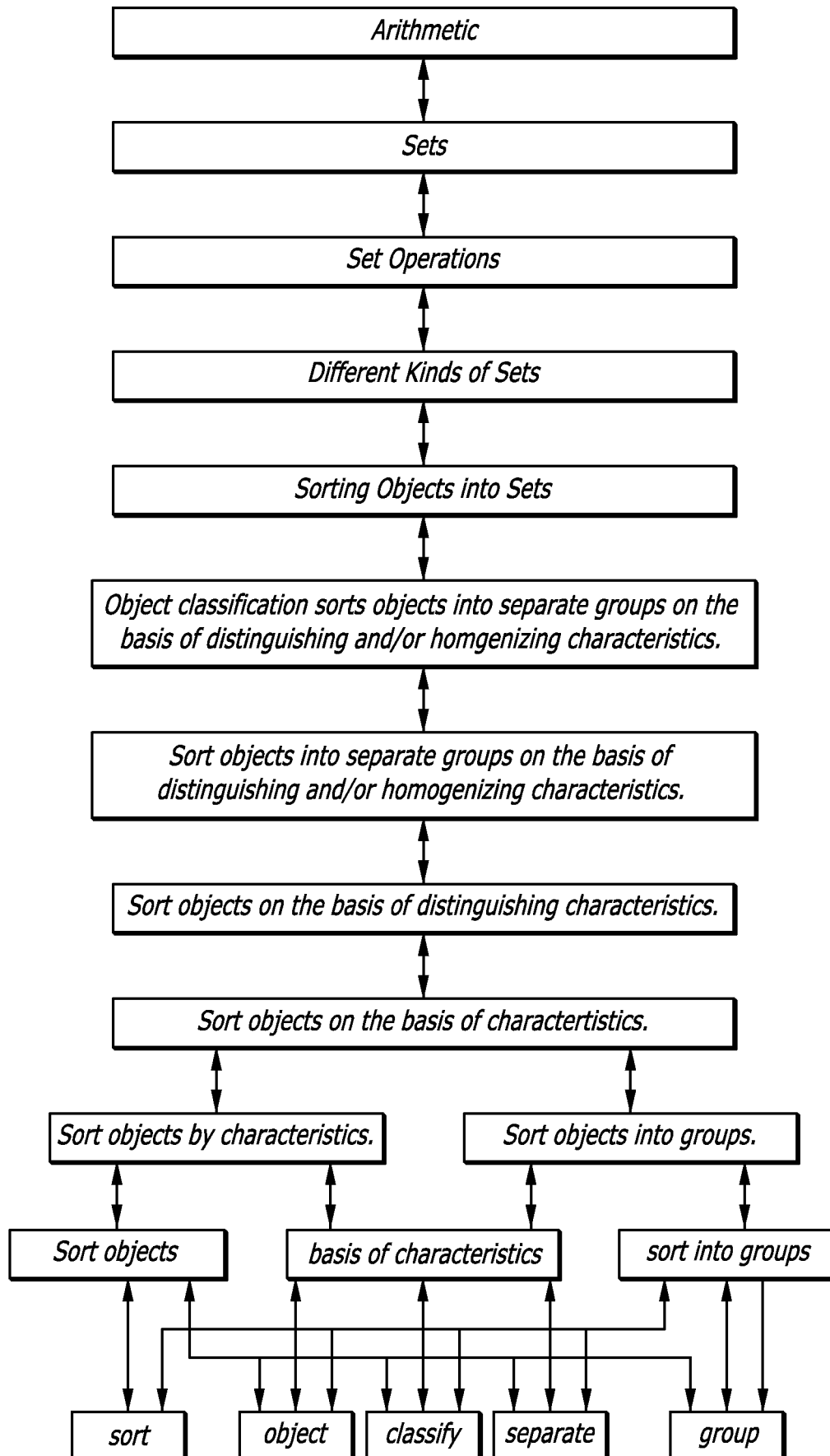
FIG. 29

FIG. 30

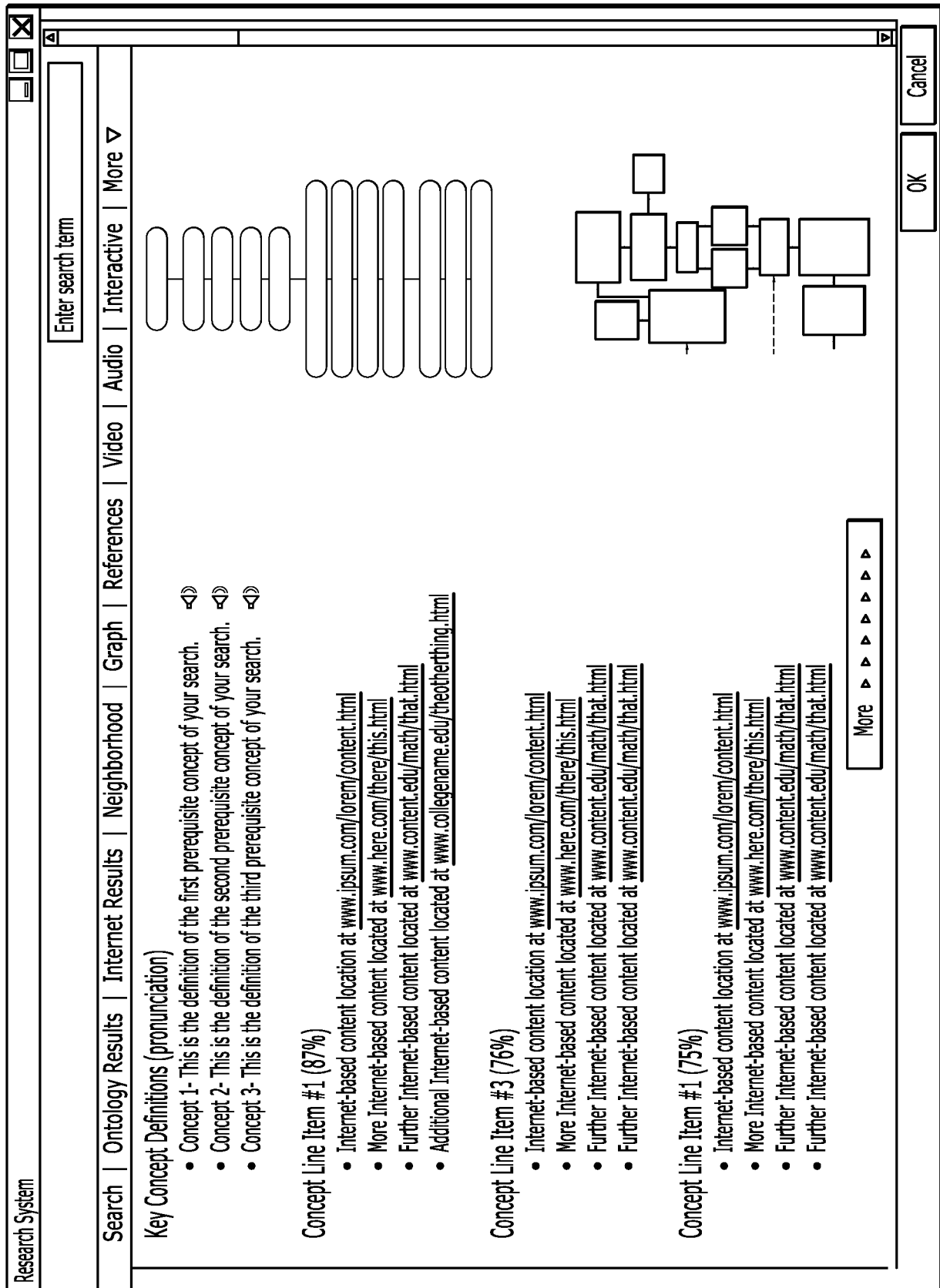


FIG. 31

		1 2 3 4 5					How many times this item is covered by all of the problems 2
1	Circles	0	0	1	1	0	2
2	Line	1	0	0	0	0	1
3	Circumscription	0	1	0	0	0	1
4	Adding integers	1	1	1	1	0	4
5	Subtracting integers	1	0	0	0	0	1
6	Semicircle	0	1	1	1	0	3
7	Circumference	1	1	0	0	0	2
8	Radius	1	0	1	1	0	3
9	Greek letter pi	0	0	0	0	1	1
10	Line segment	0	0	0	0	1	1
How many items are in this problem 3							