Index

.ATF Files 3-2
(See also Commands, Trace Stream)
(See also Files)
.AVI Files
Creating 16-10, 16-11, 16-12
Exercise 16-1 16-10
.BMP Files 3-3, 3-2, 3-3
(see also Files)
(See also Files)
(see also Files)
Creating 16-6
Displaying as slides C-7, 17-8
Importing 16-5
.DXF Files 3-3, 3-2
(See also CAD)
(see also Files)
.DXF files
Exporting to 16-4
Importing from 16-1, 16-2, 16-3
AutoCAD release supported 16-2
.LAY Files 3-2, 3-3
(See also Commands, Layout File)
(See also Files)
.LKG Files 3-3
(See also Files)
Creating 16-7
Exercise 16-1 16-10
Format of 16-8, 16-9, 16-10
.LOG Files 3-3
(See also Files)
.PCX Files
Displaying as slides C-7, 17-8
Importing 16-5
.PSF Files
(See also Commands, Presentation Script),
(See also Files)
.RTF Files
Displaying as slides C-7, 17-8
.WAV Files C-5
.WAV files 13-16, 17-11
.XXX FIles 3-6
.ZZZ Files 3-6
3-D, Approximating 2-2, 4-6

- A -

Abridged trace files 3-6, 5-8
Accelerator keys 3-10
Adding (See individual element types)
Angles
Arc starting & ending 10-6
Object orientation 11-6
Text 10-11
Animation
Concurrent 2-1
Debugging 5-6
Developing 2-3
Philosophy of 2-4
Post-Processed 2-1
Running 4-1
Exercise 4-1 4-1
Speed, controlling 4-2
Starting & stopping 4-2
Uses of 2-4
Viewing 2-3

Animation Trace File
(See also .ATF Files)
(See also Commands, Trace Stream)
Arc
Adding 9-2, 10-4, 10-5, 10-6
Angles 10-6
Direction (CW or CCW) 10-6
Drawing
Exercise 15-2 15-3
Radius 10-5
Editing 10-4, 10-6
Location 10-5
Radius 10-5
Trimming 9-1, 10-20, 10-21
Exercise 10-2 10-21
ARENA, generating trace streams with 8-18
AutoCAD release supported by Proof 16-2
Axes, Plot 13-11

- B -

Backdrop color 6-9, 6-10
Bar
Adding 9-2, 13-5
Altering during an animation 13-7
Array of 13-9
Colors 13-6
Defined 13-5
Exercise 13-2 13-9
Measurement of 13-5
Rates of growth/shrinkage 13-7
Special effects using 13-8
Bitmap Data
Exporting 16-5
Importing 16-5
Box Edit 9-1, 10-14
Color, setting 10-19
Copy 10-16
Cut 10-16
Flipping Layout elements
Horizontal 10-19
Vertical 10-19
Fonts, setting 10-19
Paste 10-17
Automatic renaming 10-17
Repeating 10-17
Stretching lines 10-18
Rescaling 10-18
Rotation 10-19
Translation 10-18

- C -

C/C++ 8-3, 18-2
CAD
Import/export 16-1
Input files 3-3
Output files 3-3
Carwash Example 8-4
CD, Installation 1-1
Circularity, Path 12-9, 12-19
Class Mode 3-1
Use of 11-2
Class, Object 6-2, 11-1
Changing during an animation 14-1
Clearance 11-6, 11-13
Exercise 11-2 11-13
Color 11-8
Creating 11-3
Defined 6-2
Deleting 11-4
Directionality 11-5, 11-13
Changing during an animation 14-18
Exercise 11-2 11-13
Drawing 11-11
Exercise 11-1 11-11
Editing 11-3

Hot Point 11-5
Names 6-3
Orientation 11-5
Properties 11-4
Changing during an animation 14-2
Properties, illustration of 11-9
RGP 11-6
Role of 11-1
Saving 11-3
Speed 11-8
Tips for defining 11-12
Clearance, Object 11-6
Changing during an animation 14-20
Clips, animation 17-10
Clock
Animation 3-8, 5-4
Wall 3-8
Collision detection D-1
Color
Background 6-9, 6-10
Bar 13-6
Changing with Box Edit 10-19
Fill 10-12
Fillet 10-9
Foreground 6-9, 6-10
Interference 6-11
Layers 6-10
Message 13-2
Names of 6-9
Palette, fine tuning 15-1
Exercise 15-1 15-2
Path Mode color scheme 12-1
Pen, choosing 9-3
Plot Axes 13-11
Plot Data 13-11
Plot Grid 13-11
Setting Object 6-8
Tips for using 19-2
Visibility 6-10
Color, Object 11-8
Color=class 6-9
Commands
Layout
arc B-3
bar B-4
color B-4
CPO B-4
define Class B-5
define color B-6
define font B-7
define Path B-7
define Plot B-8
define View B-9
end B-12
fill B-12
line B-12
message B-13
segment B-13
text B-14
Presentation Script
comment lines C-10
comments 17-15
end C-3, 17-15
endgroup C-4, 17-18
endsubgroup C-4
Exercise 17-2 17-19
exit C-4, 17-15
group C-4, 17-18
item C-5, 17-18
play C-5, 17-11
run C-5, 17-10
slide C-7, 17-8, 17-9
Structure of C-2
subgroup C-8
Summary of C-1
syscall C-8, 17-13
title C-8, 17-13
wait C-8, 17-11, 17-12

wipe C-9, 17-14
Trace Stream A-1
attach A-2, 14-21, 14-22
create 6-4, 6-1, A-2
destroy 6-1, 6-6, A-3
detach A-3
dt A-4
end 5-3, A-4
General rules for using A-1
move 7-2, A-4
place at 6-1, 6-5, A-6
place in A-6, 14-12
place On 7-5
place on A-7
place on at 14-17
place RGP A-8, 14-17
play A-9
plot A-9, 13-13
Processing of 6-12
rotate A-10, 14-1
set ... 14-1
set Bar A-11, 13-7
set Class clearance A-13, A-13
set Class directional A-13
set Class nondirectional A-13
set Class RGP A-13
set Class speed A-14
set color 6-8, 6-1
set Object Class A-14, 14-1
set Object clearance A-15, 14-21
set Object color A-15
set Object directional A-16, 14-19
set Object nondirectional A-16, 14-19
set Object speed A-16, 14-14
set Object travel A-17, 14-14
set Object userinfo A-18
set Object usertitle A-18
set Path lag A-18
set Path speed A-19, 14-16
set Path travel A-19, 14-16
set view A-20
set viewing_speed A-20
Simultaneous commands 5-5
Simultaneous execution 5-5
sound (obsolete) A-21
syscall A-21, 16-12
time 5-3, A-21
write 5-3, A-22, 13-3
Concurrent animation 2-1, 2-1, 18-1
Example of 18-6
Conventions, Documentation 2-5
Coordinate systems 3-7
Copy
Exercise 10-1 10-19
Copy (See Box Edit)
Ctrl-C 3-10
Ctrl-L 3-10
Ctrl-O 3-10
Ctrl-P 3-10
Ctrl-S 3-10
Ctrl-T 3-10
Ctrl-W 3-10
Cut (See Box Edit)

- D -

Debug Mode 3-1, 5-6
Concurrent version of 18-2
Debugging
Advanced 14-23
E-step 5-6
Exercise 5-2 5-7
Introduction to 5-6
Objects
Attaching debug info to 14-24
Displaying 14-23
T-step 5-6
Deleting (See individual element types)

DirectDraw 1-1, E-1
Directionality, Object 11-5
Disjoint Path Segments 12-14
DLLs, Proof 18-1
Docking stations E-4
Dongle 1-2
Draw Mode 3-1, 9-1
  Drawing tools 10-1
  Group (box) editing 9-1
  Undo 9-1

- E -

E-step 5-6
Editing (See individual element types)
Editing Layout elements 9-2
Encroachment, Path 12-6
Erase color
  Bar 13-2
  Message 13-2
Errors 4-3
Examples & Exercises 2-6
Exercises 2-6
  .LKG file, exploring 16-10
  Bar, creating & using 13-9
  Color Palette, fine tuning 15-2
  Debugging the trace stream 5-7
  Destroying Objects 6-6
  Drawing a complete Layout 10-22
  Drawing an Object Class 11-11
  Drawing tangent Lines & Arcs 15-3
  Folders used for 2-6
  Layout Objects 14-11
  Leapfrogs 14-19
  Linkage file, exploring 16-10
  Message, writing 13-4
  Model-generated trace streams 8-6
  Moving an Object 6-7, 7-2
  Moving an Object along a Path 7-6
  Named Views 4-6
  Object Clearance 11-13
  Object Directionality 11-13
  Objects, Layout 14-11
  Panning 4-3
  Path
    Defining 12-17, 12-18
    Exploring 12-19
    Gap tolerance 12-17
    Using 12-17, 12-18
  Paths
    Accumulating vs. non-accumulating 7-7
  Place In 14-13
  Placing Objects 6-5
  Plot, creating & using 13-14
  Presentation, building 17-19
  Presentation, running 17-7
  Rotation of Objects 14-7
  Running an animation 4-1
  Sound, adding 13-16
  Splitting the screen 4-8
  Tangent Lines & Arcs 15-3
  Trace stream, exploring 5-2
  Trimming lines & arcs 10-22
  Window properties dialog box 4-5
  Zooming 4-3
Exporting
  Bitmap files 16-6
Extend, generating trace streams with 8-1, 8-13
Extensions, file name 3-6

- F -

Files
  Abridged trace 3-6, 5-8
  Extensions 3-6
  Input 3-2
    Bitmap 3-3
    CAD 3-3
    Layout 3-2
    Presentation Script (PSF) 3-3
    Trace (ATF) 3-3
  Output
    Bitmap 3-5
    CAD 3-6
    Layout 3-4
    Linkage 3-4
    Log 3-5, 4-3
  Royalty-free demo 3-6
Fill
  Adding 9-2, 10-12
  Color 10-12
  Rendering 10-13
  Safe strategies for use of 10-13
Fillet
  Adding 9-2, 10-7
  Color 10-9
  One-click 10-7
  Trimming 10-7, 10-8
  Two-click 10-7
Flipping Layout elements 10-19
Folders 2-6
  Exercise 2-6
  Features 2-6
  Sample 2-6
Font
  Changing with Box Edit 10-19
  Definition in Layout file B-7
  Message 13-2
  Text 10-11
Foreground colors 6-9, 6-10

- G -

Gaps
  Presence of in Layout 12-14
    Exercise 12-1 12-17
  Tolerating Layout errors 12-15
GPSS/H, generating trace streams with 8-1, 8-24
Grabbing screen images 16-6
Grid
  Layout 9-4
    Dot spacing 4-6
    Line spacing 4-6
    Saving 4-6
  Plot 13-11
  Snap-to-Grid 9-5, 12-15, 19-1

- H -

Hardware
  Laptop 19-5
  Presentation 19-4
    Display units 19-5
    Large-screen monitors 19-5
    Overhead projectors 19-5
  Required by Proof 1-1
  Screen Resolution 1-2
  Troubleshooting E-1
Help, on-line 3-6
Hot Point 11-5

- I -

IDs, Object 8-3
Importing
  Bitmap files 16-5
  Layout geometry 16-1
  Slides 16-5
Installation
  CD 1-1
  Procedure 1-2
  Software 1-1
  Types of 1-1
Instrumenting a model 8-2
Interface, User 3-1, 3-10
Isometric projection 4-6

- K -

Keyboard
  (See also Keypad)
  <Ctrl> keys 3-10
  Shortcuts 3-10
Keyboard shortcuts 3-10
Keypad
  + Key 3-10
  - Key 3-10
  <Home> Key 3-10

- L -

Lag Time, Path 12-8
Laptop computers E-4, 19-5
Launching "other" programs A-21, C-8, 16-12,
  17-13
Layers, Screen 6-10
Layout
  Command syntax B-1
  Drawing
    Exercise 10-3 10-22
  Editing 9-2, 10-14
  Errors in B-3
  Grid 9-4
    As drawing tool 9-4
    Visibility 9-4
  Rendering algorithms D-3
  Saving 9-4
Layout colors 6-9, 6-10
Layout Object
  Adding 9-2
Leapfrog, Path 12-6
  Exercise 14-4 14-19
  Exercise illustrating 14-18
Library versions of Proof 18-1
Limits, Student Proof 2-6
Line
  Adding 9-2, 10-2, 10-3
    Polylines 10-3
  Drawing
    Exercise 15-2 15-3, 15-3
  Editing 10-2, 10-3
  Saving 10-3
  Trimming 9-1, 10-20, 10-21
    Exercise 10-2 10-21
Linkage files (See .LKG files)
Location
  Changing with Box Edit 10-18

- M -

Message
  Adding 9-2, 13-2
  Altering during an animation 13-3
    Exercise 13-1 13-4
  Colors 13-2
  Defined 13-1
  Prototype text 13-2

Mode
  Class (See Class Mode)
  Debug (See Debug Mode)
  Draw (See Draw Mode)
  Path (See Path Mode)
  Presentation (See Presentation Mode)
  Run (See Run Mode)
Model, instrumenting for animation 8-2
Modes, Overview 3-1
Monitors, large-screen 19-5
Motion, Guided 7-1
Motion, guided 12-1
Motion, Unguided 7-1
Mouse wheel, panning & zooming with 3-10

- N -

Names
  Class 6-3
  Object 6-3
  Path 12-3
NetMeeting E-4

- O -

Objects
  Attaching to one another 14-21
  Classes 6-2
  Clearance 11-6, 11-13
    Exercise 11-2 11-13
  Color 11-8
    Setting 6-8
  Creating 6-5
  Debugging info, attaching 14-24
  Defined 6-1
  Destroying 6-6
    Exercise 6-2 6-6
  Detaching from one another 14-22
  Directionality 11-5, 11-13
    Exercise 11-2 11-13
  IDs 8-3
  Layout 14-8
    Creating 14-9
    Editing 14-9
    Exercise 14-2 14-11
  Moving 6-7, 7-1, 7-6, 7-2
    Absolute motion 7-2
    Along a Path 7-6
      Exercise 7-2 7-6
    Exercise 6-3 6-7, 7-2
  Names 6-3, 8-3
  Numbers 8-3
  Orientation 11-5
  Path speed, setting 14-14
  Placing 6-5
    Exercise 6-1 6-5
  RGP 11-6
  Rotation 14-3
    Absolute 14-5
    Exercise 14-1 14-7
    Place in command, effects of 14-13
    Relative 14-5
    Smoothness 14-3
    Sources of 14-5
  Speed 11-8
  Tips for designing 19-2
  Uses of 6-1
Orientation, Object 11-5
Orthographic projection 4-6

- P -

Pace, Presentation 17-5
Panning 3-10, 4-3
  Exercise 4-2 4-3
Paste
  Exercise 10-1 10-19

Paste (See Box Edit)
Path
  Accumulating 12-5
  Adding 12-2
  Circular 12-9, 12-19
  Completing 12-4
  Corrupted 12-12
  Deleting 12-4
  Design issues 12-19
  Editing 12-4
  Encroachment 12-6
  Errors, correcting 12-11, 12-12
  Exercise 12-1 12-17
  Exercise 12-2 12-17
  Exercise 12-3 12-18
  Exercise 12-4 12-19
  Exporting descriptions 16-7
  Lag Time 12-8
  Leapfrog 12-6
  Length 12-4
  Names 12-3
  Properties 12-4
  Repairing incorrect 12-12, 12-12
  Segments 12-9
    Adding 12-10
    Deleting 12-10
    Disjoint 12-14
    Inserting 12-10
  Selecting for editing 12-3
  Speed 12-4
    Changing entire Path's speed 14-15
    Overriding Object's 14-14
  Squeezing Objects onto 14-17
  Travel time 12-5
  Validation of 12-6
  Verifying correctness 12-11
Path Mode 3-1, 12-1
Paths 7-7
  Accumulating 7-7
    Exercise 7-3 7-7
  Non-accumulating 7-7
    Exercise 7-3 7-7
  Uses of 7-1
Pen color 9-3
Place In
  Exercise 14-3 14-13
Plot
  Adding 9-2, 13-10
  Axes 13-11
  Clearing 13-14
  Colors 13-11
  Data range of 13-11
  Defined 13-10
  Editing 13-13
  Exercise 13-3 13-14
  Grid 13-11, 13-12
  Labels 13-11, 13-12
  Location of 13-11
  Numbered segments, rewriting 13-14
Polyline 10-3, 10-4
  Adding 9-2
Postprocessing 2-1

Presentation Mode 3-2, 17-1
  Clearing the screen 17-14
  Commands (See Commands, Presentation Script),

  Exercise 17-1 17-7
  Exiting a Presentation 17-15
  Hierarchical Presentations 17-2
    Groups 17-18
    Items 17-18
    Navigating C-2, 17-4, 17-17
    Structure of 17-16
  Introduction to 17-4
  Jumping forward & backward 17-5, 17-6, 17-7

Launching "other" programs 17-11
Linear Presentations 17-2
Pace, controlling 17-5
Pausing 17-11
Slides 17-8
Tips 19-4
Presentation Mode (See also Commands, Presentation Script),

Programs, launching from Proof C-8, 16-12,
17-13
Projection hardware 19-5
Proof
Concurrent 2-1, 18-1
Example of 18-6
Library Versions 2-1
Versions of 2-1

- R -

Rear Guidepoint (See RGP)
Rendering Algorithms D-1
Collision detection D-1
Drawing
Bar D-5
Fill D-6
Layout Objects D-4
Message D-5
Objects D-4
Plot D-5
Text D-5
Fill 10-13
Layers D-1, D-2
Priorities D-1
Write order D-1
Requirements
Hardware 1-1
Software 1-1
Resolution, Screen 1-2, 2-2
RGP 11-6, 14-18
Place On, interaction with 14-18
Rotation
Changing with Box Edit 10-18
Rotation, run-time (See Objects, Rotation),

Run Mode 3-1
Concurrent version of 18-2
Running animation clips 17-10

- S -

Samples 2-6
Scale
Changing with Box Edit 10-18
Screen
Layers 6-10, D-2
Update cycle D-3
Security Key 1-2
Security keys 1-2
Segments, Path 12-9
Segments, Path (See also Path, Segments)

Shortcuts
Keyboard 3-10
Mouse 3-10
Simultaneous commands 5-5
Slides
"Grabbing" screen images 16-6
Displaying 17-8
SLX, generating trace streams with 8-1, 8-6
Snap Options 9-1
Snap-to-Endpoint 15-2
Snap-to-Tangent 15-2
Software
Required by Proof 1-1

Sound
.WAV files 13-16, 17-11
Adding 13-16, 17-11
Exercise 13-4 13-16
Speed
Viewing 4-2
Speed, Object 11-8
Split-screen 4-8
Squeeze 14-17
Starting & stopping an animation 4-2
Statistics
Tips for displaying 19-4
Student Proof Limits 2-6

- T -

T-step 5-6
Text
Adding 9-2, 10-10
Angle 10-11
Editing 10-10, 10-12
Font 10-11
Height 10-11
Justification 10-11
Location 10-11
Timbuktu E-4
Time
Animation 5-3
Jumping 4-3
Measurement of 3-8
Real 5-3
Simulation 5-3
Synchronization of model and animation, 8-2
Tips
Appealing animations, building 19-2
Color scheme 19-2
Drawing efficiently 19-1
Laptops 19-5
Objects, defining 11-12
Presentation Hardware & Software 19-4, 19-5
Statistics, displaying 19-4
Title Bar, Presentation 17-13
Tolerance, Layout gap 12-15
Trace Stream
Creating 5-2
Debugging 5-6
Defined 2-1, 5-1
Editing by hand 5-2
Exercise 5-1 5-2
Generating commands for 8-1
Generation of
ARENA 8-18
Exercise 8-1 8-6
Extend 8-13
GPSS/H 8-24
SLX 8-6
Structure 5-1
Trimming Lines & Arcs 10-20, 10-21

Troubleshooting
DirectDraw E-1
Docking Stations E-4
Hardware E-1
Laptop E-4
Operating system E-1
Software
Incompatible programs E-3
NetMeeting E-4
Timbuktu E-4
Video drivers E-2
Video memory E-2

- U -

Undo
  Draw Mode 9-1
User Interface 3-1

- V -

Validation, Path 12-6
Versions of Proof 2-1
Video
  Drivers E-2
  Memory E-2
  Monitors, large-screen 19-5
  Projectors 19-5
View
  Definition in Layout file B-9
  Home, selecting 4-3
  Named
    Deleting 4-7
    Exercise 4-4 4-6
    Selecting 4-6
  Panning 4-3
  Split-Screen
    Defining 4-8
    Exercise 4-5 4-8
    Removing 4-8
    Tips 19-3
  Zooming 4-3

- W -

Warnings 4-3
Window, Active
  Properties 4-5
    Exercise 4-5 4-5

- Z -

Zooming 3-10, 4-3
  Exercise 4-2 4-3
  In 4-3
  Out 4-3
  Out & back 4-6, 9-5
  Zoom box 4-3
  Zoom-to-fit 4-6, 4-3