CAMBRIDGE

Cambridge University Press
978-1-108-73836-1 — Excel Basics to Blackbelt
3rd Edition
Index
More Information

Index

A3 frameworks, OUtCoMES cycle in, 209–210
ActiveX controls, 136–139
ActiveX Media Objects, 319–322
add-ins, 356–358. *See also* Blackbelt Ribbon; Solver
  in Web Query interfaces, 47–51
aggregation of data. *See* data aggregation
alignment, in static formatting, 19
answer reports, Solver, 241, 242, 249
anthropomorphism, in DSS, 8
attribute consolidation and grouping, 60–66
  in data aggregation, 59, 60
  Dodecha Solutions, Ltd., 62
    management issues, 63
  Palisade's StatTools ribbon, 63–66
    PCA in, 64–65, 66
  PCA
    in Palisade's StatTools ribbon, 64–65, 66
    in statistical attribute grouping, 61–62
auto-reset toggles, 299–300, 301

bar charts, 145–155
  box-whisker plots in, 151–154
  cell-embedded sparklines, 154, 155
  data preparation in, 146–149
  data validation, 147–149
  graphics in, access to, 150
  Pivot Charts, 154–155, 156
  simple, 149–154
BI tools. *See* Business Intelligence tools
binding constraints, 243
Binomial distribution, in simulation, 102
Blackbelt Ribbon. *See also specific tools*
  Confidence Ellipse tool, 169, 170
  data generation, 82–85
    Click Plot tool, 83–84
    Pathlength function, 84–85
    PolyPtsExtract function, 84–85
  Heat Mapper tools, 173–174
    libraries in, 174
  packaging of, 399–400
  RI Fishbone diagram, 186
  Shadow tool interface, 236
  Simple Cluster tool, 78–79
  Ternary Plot tool, 164
  visualizations with, 143–144
    conditional variation via, 146
  Web Query interfaces with, 48–51
borders, in static formatting, 19
box-whisker plots, 151–154, 168–169
bubble charts, 161–164
  comparisons between, 161
  rotational, 163
  Ternary Plot tool, 164
Business Intelligence (BI) tools
  Power BI Desktop, 177–180
    mobile sharing, 179
  for Web Query interfaces, 51–53
button icons, for Excel ribbons, 396, 398

Cartesian heat mapping, 170–172
causal mapping, in systems structures visualization
  conceptual, 185–188
  constraints in, 184–190
  in predictive modeling, 184–185
  scatter plots, 190, 192
  of system dynamics, 188–190
  System Ring tool, 187, 188
Cause-and-Effect diagram. *See* Fishbone diagram
cell-embedded sparklines, 154, 155
cells, 17–25. *See also* formatting
  fixed data in, 12–13
  formulae in, 12–13
  live data links in, 12–13
  names in, 12–13
  in worksheets, 12–13, 23
charts, visualization with, 145–167. *See also* bar charts; scatter plots
  bubble, 161–164
    comparisons between, 161
    rotational, 163
    Ternary Plot tool, 164
  data source editing interfaces, 151
circular calculations, 54–56
Click Plot tool, 83–84
closed-form normative modeling, 105–106
cluster development, evolutionary search on, 274–280. *See also* k-means approach; multidimensional splits; Simple Cluster
code. *See* Visual Basic for Applications Editor
coefficients, in regression processes, 94
COLUMN function, 335–336

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-108-73836-1 — Excel Basics to Blackbelt
3rd Edition
Index
More Information

comments
  application of, 21–23, 25
  in cells, 12–13
complex areas, visualization of, 168–180. *See also* polygonal heat mapping
  Cartesian heat mapping, 170–172
  regional definition of, 172–180
  surface maps, 170–172
  3D Surface plots, 171, 172
  of uncertainty, 168–170
concept mapping, in OUtCoMES cycle, 206
conceptual structure causal mapping, 185–188
conditional formatting, 19–21
  access to, 20
  development of, 20
  for multiple cells, 21
  of other cells, 21
conditional statements, 32, 35–39. *See also* IF statements
  analytic transitions, 37–38
    from conceptual to computational formulaic logic, 37
  tree structures, 36, 37
Confidence Ellipse tool, 169, 170
Connections specification, in OUtCoMES cycle, 204–205
constraints
  binding, 243
  in OUtCoMES Cycle, 204–205
  in regression processes, 94
  RISK Optimizer, 269
  in system structures, visualization of, 181–184
    causal mapping, 184–190
    decision-making and, 184
    scope of, 181–182
continuous random variables, in simulation, 97–99

dashboards
  definition of, 362
  development of, 363
  hiding interfaces, 385
  Userforms, 386–393
    construction of, 387–389
    control applications, 388
    linkage of, 387–389
    options, 390–392
    shortcut defaults, management of, 392–393
  workbooks, 382–386
    hiding interfaces, 385
    locking and protecting mechanisms, 383
    protection options, 386
    RISKOptimizer interfaces, 376
data aggregation, 58–60. *See also* cluster development; k-means approach; Principal Components Analysis; Simple Cluster
  attribute consolidation, 59, 60
data entry, 13–16
  cell selection in, 13–15
  copying across in, 13–14
  copying down in, 14
  extrapolation in, 16
    through pattern recognition, 16, 17
  initial, 14, 15
    switching sequences in, 15
data generation hacks, 82–85
  Click Plot tool, 83–84
  Pathlength function, 84–85
  PolyPtsExtract function, 84–85
data links, live, 12–13
data management, 33–34
  filter application tool, 33
    for hidden rows, 34
data tables, 110–117. *See also* simulation
  simulation optimization, 286–287
databases, functions for, 27
date/time functions, 26, 335
decision logic, utilities with, 249–251
decision support systems (DSS)
  anthropomorphism in, 8
  approaches to, 3–5
    analytic, 4–5
  common elements of, 4
  development stages for, 5–8
  heuristics in, 219–220
  intentions for, 3–5
  overview of, 8–11
  resources for, 8–11
  scope of, 8
  visualization in, 5–7
    causality in, 7
    comparisons in, enforcement of, 6–7
    content factors in, 7
    content integration as element of, 7
    multivariate displays as element, 7
Design-of-Experiments (DOE) methods, 120, 121, 122, 123
Developer tab, 308
development environment, front-end elements, 13
discrete random variables, in simulation, 100–104
Dodecha Solutions, Ltd., 62
  management issues, 63
DOE methods. *See* Design-of-Experiments methods
Do-While loops, 344
DSS. *See* decision support systems

Edit Custom Lists, pattern recognition and, 16, 17
engineering applications, functions for, 27
error handling, in VBA Editor, 353–356
  code flow influenced by, 355
evolutionary search. *See also* RISK Optimizer
  on cluster development, 274–280
  on group development, 274–280
  improvements in, 279
  on schedule development, 280–282
Excel ribbons. *See also* Blackbelt Ribbon
  button icons, 396, 398
  customization of, 393–399
  drawing capabilities, access to, 394
  fully automating buttons, 397–399
    menu cleanup, 398–399
  manual additions, 394
  menu setup, 397–399
  packaging of, 399–400
  subroutines, 395, 396
Explicate stage, in OUtCoMES cycle, 208
extrapolation, 16
  through pattern recognition, 16
    Edit Custom Lists, 16, 17

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE
Cambridge University Press
978-1-108-73836-1 — Excel Basics to Blackbelt
3rd Edition
Index
More Information

fill, in static formatting, 19
filled maps, 174–177
filter application tool, in data management, 33
  for hidden rows, 34
filtering, selective, 58–60
  in multidimensional bins, 74–75
  in pivoting, 74
  slicer, 75
  timeline, 75
financial data, functions for, 26
Fishbone diagram, 185
  RI, 186
fixed data, in cells, 12–13
fixed-finite loops, 340–342
fonts, in static formatting, 19
form controls, in simulation, 136–140
  ActiveX controls, 136–139
  list-box options, 139–140
formatting, of cells, 17–25
  comments, application of, 21–23, 25
  conditional, 19–21
    access to, 20
    development of, 20
    for multiple cells, 21
    of other cells, 21
  hyperlinks, 25
  multicell ranges in, 21–23
    conditional formatting and, 21
  naming in, 21–23
    Name Manager, 22–23
    for objects, 23, 24
    for referencing, 22
    in worksheets, 23, 24
  notes, application of, 21–23, 25
  static, 18–19
    alignment in, 19
    borders in, 19
    fill in, 19
    fonts in, 19
    numbers in, 18
    protections in, 19
formulae, in cells, 12–13
For-Next loops, 342
fully automating buttons, Excel ribbons, 397–399
  menu cleanup, 398–399
functions, 25–33
  for databases, 27
  for date and time, 26
  for engineering applications, 27
  for financial data, 26
  for informational data, 27
  logic, 27, 32–33
    conditional, 32
    IF statements, 32–33
  lookup, 27, 28–32
    INDEX, 29–31
    MATCH, 29–31
    OFFSET, 29–31
    VLOOKUP, 28–29, 103, 104
  for mathematical calculations, 26
  reference, 27, 28–32
  selection of, 26
    by category, 26
  for statistical data, 27
  for words and text, 27

genetic algorithms, 265
  for evolutionary search, 264–267
  iterations by, 266
  RISK Optimizer options, 282–284
Google Sheets, 377–382
  cross-application communication, 377
  customized specifications, 384
  Form Data, 380
  VBA Editor, 382
group development, evolutionary search on, 274–280

Heat Mapper tools, 173–174
  libraries in, 174
heat maps. *See* polygonal heat mapping
heuristics, in solution development, 210–220
  DSS designs, 219–220
  for mazes, 211–213
  MiniSlack heuristic, 219
  Nearest-Next, 255, 274
  objectives in, documentation of, 215
  recognition heuristics, 213–214
  sequencing heuristics, 214–219
  SPT heuristic, 219
hill climbing algorithms, 255–264
  alternative approaches to, 263
  complex nonlinearity, 257–264
  discontinuity in, 257–264
  simple linearity, 256–257
hovering windows, in VBA Editor, 332
hyperlinks, 25

IF statements, 32–33, 336–340
Image Extract tool, 173–174
images, integration of, in visualization processes, 7
Immediate windows, in VBA Editor, 332
INDEX function, 29–31
informational data, functions for, 27
interfaces. *See specific interfaces*
iOS Swift, 358–360, 400–402
Ishikawa diagram, 185, 186
iterative calculation mode, 54–56, 130–132

k-means approach, 80. *See also* cluster development; multidimensional splits

LINEST function, 94–97
  sample outputs, 96
list-box options, as form control, 139–140
live data links, in cells, 12–13
living data records, 53–58
  circular calculations, 54–56
  iterative calculations, 54–56
  WebQuery histories, 56–58
    structures of, 57
logic functions, 27, 32–33
  conditional, 32
  IF statements, 32–33
logic matrix, OUtCoMES cycle, 207
lookup functions, 27, 28–32
  INDEX, 29–31
  MATCH, 29–31
  OFFSET, 29–31
  VLOOKUP, 28–29
    in simulation, 103, 104

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE
Cambridge University Press
978-1-108-73836-1 — Excel Basics to Blackbelt
3rd Edition
Index
More Information

loops, as iteration structures, 340–345
  Do-While, 344
  fixed-finite, 340–342
  For-Next, 342
  open-ended, 343–345

macros, 130–132. *See also* Subroutines
  iterative calculation mode macros, 130–132
  multi-iterative calculation mode, 132–135
  reset macros, 298
Manifest stage, of OUtCoMES cycle, 205–207
mapping. *See also* causal mapping; polygonal heat mapping
  concept, in OUtCoMES cycle, 206
MATCH function, 29–31
mathematical calculations, functions for, 26
MiniSlack heuristic, 219
mobile sharing, 179
multicell ranges, formatting of, 21–23
  conditional formatting, 21
multidimensional bins, 70–76
  filtering by rows and columns, 74–75
  quartile cross-binning, 71, 76
multidimensional splits, cluster analysis for, 76–82
  k-means approach, 80
  from reduced component set, 81
  by Simple Cluster tool, 78–79
multiple-iterative calculation mode, 294–300
  auto-reset toggles, 299–300, 301
  evaluation in, 300
  reset Macros, 298
  selection in, 300
multivariate displays, in visualization, 7

Name Manager, 22–23
names, in cells, 12–13, 21–23
  Name Manager, 22–23
  for objects, 23, 24
  for referencing, 22
  in worksheets, 23, 24
Nearest-Next heuristics, 255, 274
notes, application of, 21–23, 25
numbers
  integration of, in visualization processes, 7
  in static formatting, 18
  in VBA Editor, 334

Objective specification, in OUtCoMES cycle, 202, 203, 206
objects, naming of, 23, 24
OFFSET function, 29–31, 335–336
online data acquisition, 44–53
  through generalized web-data pulls, 44–47
    data range properties, 47
    legacy mechanisms, 44–46
    for spreadsheet content, 45
    with Web Query interfaces, 45, 46, 47
  Web Query interfaces, 47–53
    add-ins in, 47–51
    BI tools, 51–53
    with Blackbelt Ribbon, 48–51
    data connections in, 53
    generalized web-data pulls with, 45, 46, 47
    Read Write-G, 50
open-ended loops, 343–345
optimization, 220–239. *See also* RISK Optimizer; Solver
OUtCoMES cycle, 201–209
  in A3 frameworks, 209–210
  concept mapping in, 206
  Connections specification, 204–205
  constraints in, 204–205
  Explicate stage, 208
  logic matrix, 207
  Manifest stage of, 205–207
  Objective specification, 202, 203, 206
  in PDCA processes, 209
  Scrutinize stage, 208–209
  Utilities specification, 203, 204, 206

Palisade's @RISK Ribbon, 63–66
  PCA in, 64–65, 66
Palisade's StatTools ribbon, 63–66
  PCA in, 64–65, 66
Pathlength function, 84–85
pattern recognition, 16
  Edit Custom Lists, 16, 17
PCA. *See* Principal Components Analysis
PDCA processes. *See* Plan-Do-Act-Check processes
picture import, in VBA Editor, 316
Pivot Charts, 154–155, 156
Pivot Tables
  in record grouping, 71–73, 76
  scatter plots and, 159–161
pivoting, in record grouping, 71–73
  filtering by rows and columns, 74
  mechanisms in, 71–73
  Pivot Tables, 71–73, 76
  Power Pivot, 75–76
  slicer and timeline filters, 75
Plan-Do-Act-Check (PDCA) processes, 209
point-structures, in visualization, 193
Poisson distribution, in simulation, 102
polygonal heat mapping, 172–180
  definition of, 172
  filled maps, 174–177
  Heat Mapper tool, 173–174
    libraries in, 174
  Image Extract tool, 173–174
  in Power BI Desktop, 177–180
    mobile sharing, 179
  3D maps, 174–177
    timeline playback, 178
PolyPtsExtract function, 84–85
Power BI Desktop, 177–180
  mobile sharing, 179
Power Pivot, 75–76
predictive modeling, for systems structures visualization, 184–185
Principal Components Analysis (PCA)
  in Palisade's StatTools ribbon, 64–65, 66
  in statistical attribute grouping, 61–62
progress graphs, 273
purchasing problem solutions, 241

quartile cross-binning, 71, 76

Read Write-G interface, 50
recognition heuristics, 213–214

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE
Cambridge University Press
978-1-108-73836-1 — Excel Basics to Blackbelt
3rd Edition
Index
More Information

record grouping, 67–82
multidimensional bins, 70–76
filtering by rows and columns, 74–75
quartile cross-binning, 71, 76
multidimensional splits, cluster analysis for, 76–82
k-means approach, 80
from reduced component set, 81
by Simple Cluster tool, 78–79
percentile-based categorization, 67–69
by p-levels, 69–70
rank and percentile analysis, 67, 68
by z-scores, 69–70
pivoting, 71–73
filtering by rows and columns, 74
mechanisms in, 71–73
Pivot Tables, 71–73, 76
Power Pivot, 75–76
slicer and timeline filters, 75
reference functions, 27, 28–32
regression processes, 90–97
coefficients, 94
constraints, 94
with data analysis tools, 91–93
inputs based on spreadsheet structure, 92
sample output from, 93
LINEST function, 94–97
sample outputs, 96
objectives of, 94
purpose and function of, 93–94
in VBA Editor, 318–319
Relative-Impact (RI) Fishbone diagram, 186
reorder point problem, 293
reorder point systems performances, 124–135
design structure in, 126
dynamics of, 129
iterative calculation mode macros, 130–132
module structure, 127
multi-iterative calculation mode, 132–135
summaries of, 129
RI Fishbone diagram. *See* Relative-Impact Fishbone diagram
ribbons. *See* Blackbelt Ribbon; Excel ribbons
risk. *See also* regression processes
characteristic values of, 90
profile construction for, 97
theoretical approach to, 89–90
RISK Optimizer, 268
evolutionary search, 267–284
connecting constraints, 269
iteration conditions, 271
objectives, 269
progress graphs, 273
solutions available through, 270, 272
solving methods, 269
utilities, 269
genetic algorithm options in, 282–284
for population size, 283
inventory system simulation, 372–377
in multiple-iterative calculation mode, 294–300
auto-reset toggles, 299–300, 301
evaluation in, 300
reset macros, 298
selection in, 300
sample output reports, 278
search-stopping conditions in, 277
simulation optimization, 284–289
with data tables, 286–287
without data tables, 288–289
descriptive statistics on, 289
random number generation conditions, 286
specifications in, 285–286, 287, 288
stopping conditions, 285
in single-iterative calculation mode, 291–298
data tables in, 298
nonlinearities in, 295
reorder point problem, 293
resets in, 292–293
for system simulations, 289–300
flow tactics in, 291
workbook interfaces, 376
work-group selection, 369–372
rotational bubble charts, 163
ROW function, 335–336
rudimentary attribute grouping, 60–61

sample output reports, 278
scatter plots, 156–167
in causal mapping, 190, 192
connections in, 164–166
consistency in association in, 160
default generations prior to editing, 158
dimensional options in, 159–164
editing of, 159
flow in, 166–167
source-destination arcs in, 167
mechanisms for, 157–159
Pivot Tables and, 159–161
time-window filtered, 165
schedule development, evolutionary search on, 280–282
Scrutinize stage, in OUtCoMES cycle, 208–209
search methods, 255–264
evolutionary search. *See also* evolutionary search
genetic algorithms for, 264–267
RISK Optimizer options, 282–284
hill climbing algorithms, 255–264
alternative approaches to, 263
complex nonlinearity, 257–264
discontinuity in, 257–264
simple linearity, 256–257
in Solver, 221
Nearest-Next heuristic, 255, 274
search-stopping conditions, 277
selective filtering. *See* filtering
sequencing heuristics, 214–219
Shadow tool interface, 236, 237
Short Processing Time (SPT) heuristic, 219
simple bar charts, 149–154
Simple Cluster tool, Blackbelt Ribbon, 78–79
simulation, 97–104
Design-of-Experiments methods, 120, 121, 122, 123
form controls in, 136–140
ActiveX controls, 136–139
list-box options, 139–140
Pivot Tables in, 124
random variables in, 97–104
binomial distribution in, 102

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE
Cambridge University Press
978-1-108-73836-1 — Excel Basics to Blackbelt
3rd Edition
Index
More Information

simulation (cont.)
continuous, 97–99
discrete, 100–104
Poisson distribution in, 102
for reorder point systems performances, 124–135
design structure in, 126
dynamics of, 129
iterative calculation mode macros, 130–132
module structure, 127
multi-iterative calculation mode, 132–135
summaries of, 129
for revenue management, 108–117
structure of, 110
with "what if" models, 117
VLOOKUP function in, 103, 104
single-iterative calculation mode, 291–298
data tables in, 298
nonlinearities in, 295
reorder point problem, 293
resets in, 292–293
slicer filtering, 75
Solver, 221–222
answer reports, 241, 242, 249
Connections in, documentation of, 223
constraints, 248
binding, 243
in production environments, 231
specifications for, 224, 227
on utilities, 228, 229
decision-making
for enrollment issues, 225
specifications for, 224
examples, 222–239, 252
model adjustments to, 302
nonreferencing messages, 366
objectives in
documentation of, 223
specifications of, 224
problem structures in, 226
production environments
connecting constraints on, 231
cost and revenue details, 230
decision-making structure for, 231
objectives of, 231
optimal solutions for, 232
requirement specifications, 229
utilities in, 231
purchasing problem solutions, 241
Shadow tool interface, 236, 237
spreadsheet construction in, 234
layout examples, 246, 247
solutions in, 235
utilities in
documentation of, 223
integer constraints on, 228, 229
in production environments, 231
in VBA Editor, 365–368
visualization, 238
source-destination arcs, in scatter plots, 167
SPT heuristic. *See* Short Processing Time heuristic
static formatting, 18–19
alignment in, 19
borders in, 19
fill in, 19
fonts in, 19
numbers in, 18
protections in, 19
stopping conditions, 285
storage, in VBA Editor
changes in information, 330–332
comparison of data, 329
spreadsheets, 322–333
variables, 323–330
subroutines, 395, 396. *See also* macros; User Defined Functions
surface maps, 170–172
system structures, visualization of, 180–190
causal mapping
conceptual, 185–188
constraints in, 184–190
in predictive modeling, 184–185
scatter plots, 190, 192
of system dynamics, 188–190
System Ring tool, 187, 188
constraints, 181–184
causal mapping, 184–190
decision-making and, 184
scope of, 181–182
decision-making and, 180–181
constraints and, 184
flexible structures in, 183
plan development in, elements of, 182
RI Fishbone diagram, 185, 186
System Ring tool, 187, 188

table transfers, 41–43
Ternary Plot tool, 164
text file imports, 41–43
FIND function, 42–43
Get & Transform Data, 43
MID function, 42–43
SUBSTITUTE function, 42–43
Text Import Wizard interfaces, 41–42
3D maps, 174–177
timeline playback, 178
3D Surface plots, 171, 172
time. *See* date/time functions
timeline filtering, 75
time-window filtered scatter plots, 165
tree, structures, for conditional statements, 36, 37

uncertainty. *See also* risk
of complex areas, 168–170
User Defined Functions, 345–353
add-ins, 356–358
for online stock data, 352–353, 354
for queuing equations, 349–352
recognition of, 348
user interfaces. *See* dashboards; Solver
Userforms, 386–393
construction of, 387–389
control applications, 388
linkage of, 387–389
options, 390–392
shortcut defaults, management of, 392–393
Utilities
decision logic with, 249–251
in OUtCoMES cycle, 203, 204, 206
in RISK Optimizer, 269

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-108-73836-1 — Excel Basics to Blackbelt
3rd Edition
Index
More Information

in Solver
documentation of, 223
integer constraints on, 228, 229
in production environments, 231

Visual Basic for Applications (VBA) Editor, 307–356. *See also* macros; subroutines; User Defined Functions; Userforms
ActiveX Media Objects, 319–322
chart properties, 318–319
trend line modifications, 320
data tools, modifications to, 316–317
slicer selections, 317
Developer tab, 308
embedded visuals in
code management of, 322
manipulation of, 315–316
environmental elements, 309
error handling, 353–356
code flow influenced by, 355
Google Sheets, 382
iOS Swift compared to, 358–360
loops, as iteration structures, 340–345
Do-While, 344
fixed-finite, 340–342
For-Next, 342
open-ended, 343–345
picture import in, 316
regression tools, 318–319
Solver in, 365–368
spreadsheet-related functions, 322–340
COLUMN function, 335–336
date/time function, 335
IF statements, 336–340
OFFSET function, 335–336
random numbers, 334
ROW function, 335–336
storage and, 322–333
changes in information, 330–332
comparison of data, 329
in spreadsheet cells, 330
variables, 323–330
Watch windows, 332
Windows Media Player and, 320–321
visual design, purpose of, 142–143
visualizations
with Blackbelt Ribbon, 143–144
conditional variation via, 146
box-whisker plots, 168–169
of complex areas, 168–180. *See also* polygonal heat mapping
Cartesian heat mapping, 170–172
of confidence, 168–170
regional definition of, 172–180
surface maps, 170–172
3D Surface plots, 171, 172
of uncertainty, 168–170
in DSS, 5–7
causality in, 7
comparisons in, enforcement of, 6–7
content factors in, 7
content integration as element of, 7
multivariate displays as element, 7
dynamic paths, 192–194
with Google platforms, 191
heat maps, 143–144
Image Extract tool, 173–174
image integration in, 7
multivariate displays as element, 7
numbers integration in, 7
with Palisade's suite, 192
point-structures in, 193
Power Map, 143–144
with R resources program, 191
of system structures. *See* system structures
with Tableau program, 191
word integration in, 7
VLOOKUP function, 28–29
in simulation, 103, 104

Watch windows, 332
Web Query interfaces, 47–53
add-ins in, 47–51
BI tools, 51–53
with Blackbelt Ribbon, 48–51
data connections in, 53
generalized web-data pulls with, 45, 46, 47
living data records on, 56–58
structures of WebQuery histories, 57
Read Write-G, 50
web-data pulls, generalized, 44–47
data range properties, 47
legacy mechanisms, 44–46
for spreadsheet content, 45
with Web Query interfaces, 45, 46, 47
Windows Media Player, 320–321
workbooks, 12–13, 382–386
locking and protecting mechanisms, 383
protection options, 386
worksheets, 12–13
cells in, 12–13, 23
formatting of names in, 23, 24

© in this web service Cambridge University Press www.cambridge.org