WILEY

Jeff Duntemann

Assembly Language Step by Step

Programming with Linux®

THIRD EDITION

Assembly Language Step-by-Step

Assembly Language Step-by-Step

Programming with Linux®

Third Edition

Jeff Duntemann

WILEY
Wiley Publishing, Inc.

Assembly Language Step-by-Step

Published by
Wiley Publishing, Inc.
10475 Crosspoint Boulevard
Indianapolis, IN 46256
www.wiley.com

Published by Wiley Publishing, Inc., Indianapolis, Indiana

Published simultaneously in Canada

ISBN: 978-0-470-49702-9

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

Library of Congress Control Number: 2009933745

To the eternal memory of
Kathleen M. Duntemann, Godmother
1920–1999
who gave me books when all I could do was put teeth marks on them.
There are no words for how much I owe you!

About the Author

Jeff Duntemann is a writer, editor, lecturer, and publishing industry analyst. In his thirty years in the technology industry he has been a computer programmer and systems analyst for Xerox Corporation, a technical journal editor for Ziff-Davis Publications, and Editorial Director for Coriolis Group Books and later Paraglyph Press. He is currently a technical publishing consultant and also owns Copperwood Press, a POD imprint hosted on lulu.com. Jeff lives with his wife Carol in Colorado Springs, Colorado.

Credits

Executive Editor
Carol Long

Project Editor
Brian Herrmann

Production Editor
Rebecca Anderson

Copy Editor
Luann Rouff

Editorial Director
Robyn B. Siesky

Editorial Manager
Mary Beth Wakefield

Production Manager
Tim Tate

Vice President and Executive Group Publisher
Richard Swadley

Vice President and Executive Publisher
Barry Pruett

Associate Publisher
Jim Minatel

Project Coordinator, Cover
Lynsey Stanford

Proofreader
Dr. Nate Pritts, Word One

Indexer
J&J Indexing

Cover Image
© Jupiter Images/Corbis/
Lawrence Manning

Acknowledgments

First of all, thanks are due to Carol Long and Brian Herrmann at Wiley, for allowing this book another shot, and then making sure it happened, on a much more aggressive schedule than last time.

As for all three previous editions, I owe Michael Abrash a debt of gratitude for constant sane advice on many things, especially the arcane differences between modern Intel microarchitectures.

Although they might not realize it, Randy Hyde, Frank Kotler, Beth, and all the rest of the gang on alt.lang.asm were very helpful in several ways, not least of which was hearing and answering requests from assembly language newcomers, thus helping me decide what must be covered in a book like this and what need not.

Finally, and as always, a toast to Carol for the support and sacramental friendship that has enlivened me now for 40 years, and enabled me to take on projects like this and see them through to the end.

Contents at a Glance

Contents