An Introduction to Description Logic

Description logic (DL) has a long tradition in computer science and knowledge representation, being designed so that domain knowledge can be described and so that computers can reason about this knowledge. DL has recently gained increased importance since it forms the logical basis of widely used ontology languages, in particular the web ontology language OWL.

Written by four renowned experts, this is the first textbook on Description Logic. It is suitable for self-study by graduates and as the basis for a university course. Starting from a basic DL, the book introduces the reader to its syntax, semantics, reasoning problems and model theory, and discusses the computational complexity of these reasoning problems and algorithms to solve them. It then explores a variety of different description logics, reasoning techniques, knowledge-based applications and tools, and describes the relationship between DLs and OWL.

Downloaded from https://www.cambridge.org/core. Indian Institute of Technology Chennai IIT, on 25 Jan 2022 at 16:35:35, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. https://doi.org/10.1017/9781139025355

Downloaded from https://www.cambridge.org/core. Indian Institute of Technology Chennai IIT, on 25 Jan 2022 at 16:35:35, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. https://doi.org/10.1017/9781139025355

An Introduction to Description Logic

FRANZ BAADER
Technische Universität, Dresden

IAN HORROCKS
University of Oxford

CARSTEN LUTZ
Universität Bremen

ULI SATTLER
University of Manchester

Downloaded from https://www.cambridge.org/core. Indian Institute of Technology Chennai IIT, on 25 Jan 2022 at 16:35:35, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. https://doi.org/10.1017/9781139025355

CAMBRIDGE
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

4843/24, 2nd Floor, Ansari Road, Daryaganj, Delhi – 110002, India

79 Anson Road, #06-04/06, Singapore 079906

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/9780521873611
DOI: 10.1017/9781139025355

© Franz Baader, Ian Horrocks, Carsten Lutz and Uli Sattler 2017

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2017

Printed in the United Kingdom by Clays, St Ives plc

A catalogue record for this publication is available from the British Library.

ISBN 978-0-521-87361-1 Hardback
ISBN 978-0-521-69542-8 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party Internet Web sites referred to in this publication and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.

Downloaded from https://www.cambridge.org/core. Indian Institute of Technology Chennai IIT, on 25 Jan 2022 at 16:35:35, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. https://doi.org/10.1017/9781139025355