María Antonia	a Huertas (O	pen Univ	versity of	Catalonia, mhu	iertass@.uoc.ed	lu)		A Comparis	on and Clas	sification o	of Tools for	Learning Lo	pgic		Last a	ctualization: March 2011
Tool Name	Туре	Date of Creation /Last version	Platform	Developer	Logical Content	Student Level	Language	Functionalities	Logical Notation Introduction	Interactivity	Feedback	Hints	License	Statistics or assessment	Use's Identification	Reference
Tarsk's World	E-TUTOR	1997	Windows Apple	John Etchemendy, Stanford U. & Jon Barwise, Indiana U. (USA)	Predicate Logic (Semantics)	Basic Logic course	English	Evaluation of first-order sentences within models which users may construct using a simple editor	Keyboard window & from the physical keyboard (macros equivalents to logical symbols)	Tarski's World software comes with exercises	Error message + Grade reports (via an on-line grading service)	NO	© CSLI Publications	Grade reports (via an on-line grading service)	Individual access	D. Barker-Plummer, J. Barwise and J. Etchemendy:Tarski Worldarski's World Revised, CSLI Publications, 2008
LPL-software	E-TUTOR	1999/ 2002	Windows Apple	John Etchemendy, Stanford U. & Jon Barwise, Indiana U. (USA)	Propositional and Predicate Logic (Natural Dedcution -DN-, Semantics, Truth Tables)	Basic Logic course	English	Tarski's World: first-order semantics; Fitch: construct and checking first- order proofs; Boole: construction and checking of truth tables	Keyboard window & from the physical keyboard (macros equivalents to logical symbols)	It comes with a courseware package	Error message + Grade reports (via an on-line grading service)	NO	© CSLI Publications	Grade reports (via an on-line grading service)	Individual access	J. Etchemendy & J. Barwise. Language, Proof and Logic.nguage, Proof and Logic. CSLI Publications, 2002.
MLT-PC	E-TUTOR	1999	Windows	Neus Budesca Universitat Rovira Virgili (Spain)	Propositional Logic (ND, Boolean Algebra and Resolution)	Introductory course of Logic in Computer Science Curriculum	Catalan	Guide students in the construction of a proof	Plain text for symbols	Student try to apply a rule at any stage	Error message	NO	Only for students in the course	YES	Individual access	Course
Logic Daemon	E-TUTOR	2001	Web	Colin Allent & Chris Menzel, Texas A&M U. (USA)	Propositional ans Predicate Logic (ND, Countermodels, Truth Tables)	Introductory college level course of Logic	English	Guide students in the construction of a ND proof	Plain text for symbols	If a student request help the tutor provides hints	assistance and feedback about their work	YES	© The MIT Press 1992- 2001	YES	Individual access	Colin Allen and Michael Hand, Logic Primer (2nd ed.). MIT Press, 2001
CPT-AProS (Carnegie Proof Lab – Automated Proof Search)	E-TUTOR	2003	Web	Wilfried Sieg and others Canegie Mellon (USA)	Propositional and Predicate Logic (ND, Truth Tables, Truth Trees)	Web based introduction course of logic. Varied background	English	Interactive proof construction	Plain text for symbols	If a student request help the tutor provides hints	Error message +Immediate specific feedback	Help window and advices in the interactive tutor	Open Demo Version. Can be obtained by contacting the project's director	YES	Individual access	Wilfried Sieg. AProS Project: Strategic Thinking & Computational Logic. Logic Journal of the IGPL 15 (4), 2007, 359-368
LogicCoach III	E-TUTOR	Updated 2003	Windows Apple	Nelson Pole, Cleveland State University (USA)	Informal Logic (Truth tables, Syllogisms, Proofs)	Introductory course of Logic	English	Guide students in the construction of proofs		Student try to apply a rule at any stage. Make it or give advise	Error message +Immediate specific feedback	Hint about a successful strategy for the proof	Wadsworth Publishing Company is now Cengage Publishing	Evaluation of the work done		P. Hurley, A Concise Introduction to Logic, Wadsworth, 2003. H. Kahane & P. Tidman, Logic and Philosophy: A Modern Introduction, Wadsworth 2003. D. Jacquette, Symbolic Logic, Wadsworth, 2001.
ORGANON	E-TUTOR	2006	Web	Dep. of Philosophy University of West Bohemia (Czech R.)	Propositional and Predicate Logic	Basic Logic course (many students)	Czech	Interactive guide in practising exercises		If a student request help the tutor provides hints	Error message +Immediate specific feedback	Gives hints for the next step (if required by the student)	Can be obtained by contacting the project's director	YES	Individual access	L.Dostálová and J. Lang. ORGANON-The Web Tutor for Basic Logic Courses. Logic Jnl IGPL (2007) 15(4), 305-311, 2007
AELL (Assistent E- Learning Logic)	E-TUTOR	2008	Web	Laura Lopez and others Open Univ. of Catalonia (Spain)	Propositional and Predicate Logic (Truth Tables, ND, DNF, Resolution)	Introductory course of Logic in Computer Science Curriculum	Spanish & Catalan	Guide and help in the construction of proofs, evaluations, etc.	keyboard window	Student try to apply a rule at any stage. Make it or give advise	Error message + immediate feedback	Hints about the error	Only for students in the course	YES	Individual access	Logic Course of the UOC
Logic Cafe	E-TUTORIAL	1999 / 2006	Web	John Halpin, Oakland University (USA)	Elementary Symbolic Logic	Introductory course of Logic	English	Occasionally quizzes to check the students' work	keyboard window	Basically checking	assistance and feedback about their work	YES	Free	NO		On-line logic textbook with integrated web-based exercises, public domain
Power of Logic	E-TUTORIAL	Updated 2009	Web	Colin Allent & Chris Menzel, Texas A&M U. (USA)	Various logical topics, Proof Checking	Introductory course of Logic	English	To check work	Plain text for symbols	Check work and receive feedback	assistance and feedback about their work	NO	Free tutorial to accompany the book The Power of Logic			F. Howard-Snyder et Al.: The Power of Logic (4th ed.), McGraw Hill, 2009
Pandora (Proof Assistant for ND using Organised Rectangular Areas)	ASSISTANT	1996 / 2002	Web	Krysia Broda and others Imperial College (UK)	Propositional and Predicate Logic (ND)	Introductory course of Logic in Computer Science Curriculum	English	Guide students in the construction of a ND proof	Plain text characters and Pandora displays logical symbols	Student try to apply a rule at any stage. Help and advise in the e- tutor	Error message +Immediate specific feedback	Help window and advices in the interactive e-tutor	Open/Free	Automatig marking		K. Broda et al.: Reasoned Programming, Prentice-Hall, 1994. K. Broda et al: Pandora: A Reasoning Toolbox using Natural Deduction Style Logic, Jnl IGPL (2007) 15(4): 233-304, 2007
Jape	ASSISTANT	1997	MacOSX Windows Linux Solaris	Bernard Sufrin, Oxford University & Richard Bornat, QMW (UK)	Propositional and Predicate Logic (ND)	Introductory course of Logic	English	Guide students step-by-step in building a proof		Student try to apply a rule at any stage.	Error message	YES		NO		F. Howard-Snyder et Al.: The Power of Logic (4th ed.), McGraw Hill, 2009
Plato	ASSISTANT	1995/ 1998	Windows Apple	University of Texas at Austin (USA)	Propositional and Predicate Logic (ND)	Basic Logic course for Philosophy	English	Help the user to construct proofs in a particular proof format	Plain text characters, keyboard windows and keyboard shortcuts	Student is guided throughout the whole process.	NO	NO	Open/Free	NO		
Socrates	ASSISTANT	2001	Windows Apple	University of Texas at Austin (USA)	Semantic Tableaux for Propositional and Predicate Logics	Basic Logic course for Philosophy	English	Guide the student to construct semantic tableaux	plain text characters	Student is guided throughout the whole process.	NO	NO	Open/Free	NO		
blobLogic	ASSISTANT	2003	Web Windows Apple	Corin Howitt, Oxford University (UK)	Semantic Tableaux for Propositional, Predicate, and Modal Logics	most undergraduate courses in Formal Logic.	English	Help users to build Semantic Tableaux using the Beth/Jeffreys rule set		A range of interactive tutorials in tutorial mode	Detailed feedback about each proof	NO	Distributed both as a Shockwave applet and as a stand-alone application	NO		
ADN	ASSISTANT	2000 / 2003	Web	Sergio Mira University of Alicante (Spain)	Propositional and Predicate Logic (ND)	Introductory course of Logic	Spanish	Guide and help in the construction of proofs	Plain text characters and it displays logical symbols	Student try to apply a rule at any stage.	Error message + immediate feedback	Rules to apply	Free	NO		
DN-FN	ASSISTANT	2006	Windows	Patrice Bailhache, University of Nantes (France)	Propositional and Predicate Logic (ND, Normal Forms)	Basic Logic course for Philosophy	French, English, German, Polish, Spanish	Help in making proofs or Normal Forms	plain text characters	3 modes: only results, explanations, training	assistance and feedback about their work	NO	Free	NO		
IDEAS	ASSISTANT	2007	Web	Open University of Netherlands	Disjunctive Normal Form (DNF)	Introductory course of Logic	Dutch	Guide students in the construction of a DNF		Student try to apply a rule at any stage.	Error message + immediate feedback	Plausible rule to apply				Evaluation
TPS and ETPS	ASSISTANT	Updated 2010	Web Unix Windows	Peter B. Andrews, Carnegie Mellon University (USA)	First-order Logic & Higher-order Logic (Proofs)		English	Help to constuct proofs (interactively or automatically)	plain text characters	Facilities for rearranging proofs	Error message + immediate feedback	YES	Free under acceptance of the TPS Distribution Agreement	NO		Peter B. Andrews, An Introduction to Mathematical Logic and Type Theory: To Truth Through Proof, Second Edition, Kluwer Academic Publishers, 2002
Interactive Logi	CHECKER	1997 / 2003	Web	Stanley N. Burris University of Waterloo (Canada)	Propositional Logic (Truth Tables, Unification)	Introductory course of Logic	English	Help in building truth tables and checking unification	plain text characters	Only checking	Only checking	NO	Free	NO		
Bertie3	CHECKER	2005	Windows Linux	Austen Clark, University of Connecticut (USA)	Propositional and Predicate Logic (ND)	Introductory course of Logic (The Logic Book)	English	Allow students to check ND proofs		Only checking	Error message	NO	Available as GNU Public Domain License software	NO		M. Bergmann et al.: The Logic Book, 2nd edition. McGrawHill, 1992
Summa Logicae	CHECKER	2005	Windows	Elena Jorge and others University of Salamanca (Spain)	Truth Tables, Syllogisms, Proofs, Kripke models	Introcutory course of Logic for Philosophy and Computer Science Curric	Spanish	Guide and help in the construction of proofs, evaluations, etc.		Checking or constructing proofs	Error message		Free	NO		
ProofWeb	CHECKER	2006	Web	Cezary Kaliszyk and others Radboud University & Free University (Netherlands)	Propositional and Predicate Logic (ND)	Introductory course of Logic	English	Help in the construction of proofs in Gentzen style 'tree' proofs, or Fitch style 'box' proofs.	ASCII syntax for formulas	Error message	Error message +Immediate feedback	NO	Free	Current status of the exercise		Huth & Ryan: Logic in Computer Science, CUP. Manual
Gateway to logi	CHECKER	1996 / 2010	Web	Christian Gottschall University of Vienna (Austria)	Ttruth Tables, Normal Forms, Proofs	Introductory course of Logic	English, German	Interactively constructing proofs in different formats &.to check proofs submitted by the user	infix notation (Peano-Russel notation) in plain text characters	Checking or constructing proofs	Only checking	NO	Free	NO		
DC Proof	CHECKER	2010	Windows	Dan Christensen	ND, Formal Arguments	Introductory course of Logic	English	Proof checker that can be used to teach basic proof-writing skills for		Interactive tutorials	immediate feedback by proof-checking	Hints and full solutions	Free for personal use or evaluation purposes	NO		F.A. Ersoz: Proof in different mathematical domains, Proceedings of the ICMI Conference, Vol. 1, 2009
Logic Animation	PROVER	1999	Web	Jan Jaspars University of Amsterdam	Propositional, Predicate, Modal,	Basic Mathematical	Dutch	semantic computations in propositional, predicate,	keyboard window	Only computes	Gives results	NO	Free	NO		