Index

ADAPSO. See The Computer Software and Services Industry	CONTU. See National Commission on New Technological Uses
Association	of Copyrighted Works
Advisory Commission on Patent Law Reform, 10-11,55-56	Cooling Systems & Flexibles, Inc. v. Stuart Radiator, Inc., 74
Advisory Committee for Trade Policy and Negotiations, 109	Cooperative agreements, 192-193
American Memory Project, 169	Copyright. See also Berne Convention; Copyright Act; Copy-
Amnesty programs, 101	right law; Piracy
Anticompetitive product preannouncements, 199	authorship, 131, 174-175
Antitrust policies, 190	clean rooms, 139-140
Apple v. Franklin, 13,68-69	copying in Renaissance art, 62-63
Association for Computing Machinery/IEEE Computer Society Task Force on the Core of Computer Science, 156	copyrightable expression, 60-61, 68-69, 70, 72-73, 74, 87, 139-140, 144
Attaching programs, 127	recompilation, 6,7, 19,25, 146, 147-148, 150
Authorship issues, 112-113, 131, 174-175	digital information issue, 19, 170-179
	early protection, 58-59
Background of issues, 3-4	economics literature, 183-185
Baker v. Selden, 69	electronic mail messages, 171-172
Barriers to entry, 190-191	external design protection, 139
Berne Convention, 16, 104-107, 110	home copying, 199-201
Berne Convention Implementation Act of 1988, 106-107	intention of U.S. system, 186-187
Biotechnology issues, 40-41	international issues, 25
Board of Patent Appeals and Interferences, 44-45	multimedia works, 36
Breadth of a patent, 194-197	originality, 173-174
Broad patent protection, 192-193	ownership issue, 67-68
Broderbund Sofware, Inc. v. Unison World, Inc., 72	permissions and royalty collection, 36
BSA. See Business Software Alliance	policy areas and options, 29-31
Bureau of National Affairs, 109	scope of protection, 9-10, 60-61, 151, 194
Business Software Alliance, 95, 98	size of a work, 172
overseas piracy, 101-103	statutory subject matter, 13
	technical challenges, 22-23
CASE. See Computer-Aided Software Engineering	unauthorized copying, 176-177
Case law	"work" definition, 171-173
copyright, 13, 68-73	Copyright Act, 27,87, 111, 112, 144, 178
patents, 45-52	fair use and, 61-65
CBEMA. See Computer and Business Equipment Manufactur-	1980 amendment, 67-68
ers Association	Copyright and Home Copying: Technology Challenges the Law,
CCPA. See Court of Customs and Patent Appeals	4, 199-201
CD-ROM. See Compact disc, read-only memory	Copyright law. See also Copyright; Copyright Act; Sui generis
Circular R61, 65-66	backup copies of computer programs, 177
Clean room microcode, 71-72	case law, 13, 68-73
Clean rooms, 139-140	categories of works, 172
Command language dialogue, 127-128	control of access to information, 176
Compact disc, read-only memory, 166	Copyright Office and, 65-66
Compatibility	databases, 73-77
network externalities and, 198-199	development of, 58-60
Compendium of Copyright Office Practices, 66	digital information and, 178
Compilations	expression definition, 144
copyright infringement and, 174	fair use issue, 31,35-36,61-65
databases and, 73-77	in foreign countries, 80-82
Computer-Aided Software Engineering, 168	goals, 56-58
Computer and Business Equipment Manufacturers Association,	hybrid design protection, 77-78
96	industrial design protection, 76-77
Computer Associates International, Inc. v. Altai, Inc., 13, 72,	levels of abstractions test, 72
140	limitations to owner's exclusive rights, 61
Computer science, undergraduate curricula, 158	mask work protection, 76
Computer Software and Intellectual Property, 4	merger doctrine, 70, 145
The Computer Software and Services Industry Association, 98	mixed-media work protection, 172-173
Congress. See U.S. Congress	object code and source code protection, 68-69
Consistency issues, 129-130	patent/trade secret/copyright laws relationships, 86-88
Contract law protection of electronic and computer technology,	policy position arguments, 151, 153
83-84	program code protection, 144

rule of doubt, 66	electronic publishing, 161-170
scope of protection, 9-10, 60-61, 151, 198	hypertext, 168-169
structure, sequence and organization protectability, 69-72	libraries and, 177-179
user interface, 72-73	mixed-media, 169, 172-173
Copyright Office	scholarly publishing system and, 167
program code and screen display relationship, 153	storing and retrieving data, 162
responsibilities, 65-66, 109	storing text and images, 163-164
rule of doubt, 66	user's view, 171
Copyrightable expression, 60-61	Digital libraries, 169-170
clean rooms, 139-140	Disassembly
definition, 144	recompilation and, 147-148
distinguishing from unprotected elements, 72-73	definition, 146
expression of facts, 74	"Draft Final Act Embodying the Results of the Uruguay Round
form of, 87	of Multilateral Trade Negotiations, "114
idea/expression merger, 70	•
nonliteral elements test, 73	Economic issues, 183-201
object code and source code protection, 68-69	he-enterprise economy, 184
Council Directive on legal protection of computer programs,	intellectual property, 20-21
16-17	literature on, 183-185
authorship of programs, 118	social benefits, 186-194
beneficiaries of protection, 118	technology changes, 22
recompilation, 119-120	E.F. Johnson v. Uniden, 139
exceptions to the restricted acts, 119	Electronic mail messages, 171-172
object of protection, 115	Electronic publishing
other legal provisions, 121	CD-ROM, 166
restricted acts, 118-119	definition, 171
special measures of protection, 120	nonprint, 165-170
term of protection, 120-121	on-line information retrieval service, 165-166
Council of the European Economic Community, 112-113	print-based, 162, 164
Counterfeiting, 99-100	royalties, 175
Court of Customs and Patent Appeals	End-user piracy, 97-98, 100-101
best mode requirement, 44	Engineering Dynamics, Inc. v. Structural Software, Inc. and
mathematical algorithms guidelines, 133-134	S. Rao Guntur, 73
mental steps doctrine decisions, 46-52	European Economic Community
patentability of software-dated inventions, 132-133	antitrust regimes, 190
point of novelty test, 49-50	Council Directive on legal protection of computer programs,
Cryptography, 137	16-17, 115, 118-121
Czechoslovakia	Green Paper, 115, 116-118
bilateral treaty, 115	trade agreement, 108
	Expression. See Copyrightable expression
Databases	External design
copyright law and, 73-77, 113	copyright protection, 139
mixed-media, 169	definition, 17-18
Recompilation, 6,7, 19,25, 119-120	intellectual property protection of, 138-140
definition, 146	patent protection, 139
disassembly and, 147-148	policy issues, 140-141
USes of, 148, 150	technology, 126-127
Design Innovation and Technology Act of 1991,77	trade secret law protection, 139
Design patents, 42	
protection, 76	Fair use
statutory subject matter, 12	copyright issues, 31, 35-36,61-65
Diamond v. Chakrabarty, 40	libraries and, 35
Diamond v. Diehr, 12,24,32,51-52, 134	patents, 31
Digital Communications Associates v. Softklone Distributing	Fax machines, 176
Corporation, 72-73, 153	Federal government concerns, 156-157
Digital information	Feist Publications Inc. v. Rural Telephone Service Co., Inc.,
advantages and disadvantages, 166-168	74-75, 174
characteristics, 170-171	France
controlling use of, 175-179	software piracy, 102
copying, 176-177	Free-enterprise economy, 184
copyright issues, 19-20, 170-179)	Free riders, 185
digital libraries, 169-170	Freeman-Walter-Abele test, 133, 134, 137-138
,	,, - ,

GATT See General Agreement on Tariffs and Trade GCA Corp. v. Chance, 69 General Agreement on Tariffs and Trade, 16, 107-114	program function, 132-135 Intellectual Property Rights in an Age of Electronics and
Office of the U.S. Trade Representative, 109-110	Information, 3 International Intellectual Property Alliance, 98, 103
trade-related intellectual property rights, 110-114	
Global software industry	International issues. See <i>also</i> European Economic Community
data collection, 93-94	Berne Convention, 16, 104-107
markets, 94-97	copyright law, 80-82
	copyright provisions, 25
technology, 94-97 Gottschalk v. Benson, 12,32,4749, 133, 150-151	Council Directive on legal protection of computer programs 16-17, 115-121
Healthcare Affiliated Services, Inc. v. Lippany, 71	design protection, 77
Home copying	"Draft Final Act Embodying the Results of the Uruguay
effect on economic welfare, 199, 200	Round of Multilateral Trade Negotiations, "114
piracy, 97	General Agreement on Tariffs and Trade, 16, 107-114
price discrimination, 201	global software industry, 14-15,93-97
resource allocation, 201	level of patent protection, 25-26
variety, 201	patent laws, 57
· ·	software piracy, 15-16, 97-104
Hybrid design protection, 77-78	software revenues, 14-15
Hypermedia, 168-169	trade secret law, 89-90
Hypertext, 168-169	treaties and agreements, 16-17
IIPA. See International Intellectual Property Alliance	International Trade Commission, 95
Illegal copying. See Piracy	Inventions. See <i>also</i> Patent law; Patents
In re Abele, 52, 53	excessive incentives, 188-190
In re Abete, 52, 55 In re Abrams, 46	incentives, 196
In re Benson, 47	private returns, 189
	underinvestment in, 184
In re Bernhart, 47,48	Issues and options
In re Bradley, 51	copyright law, 22-23
In re Chatfield, 50	digital information and copyright, 26
In re Christensen, 49	future options, 36
In re deCastelet, 50	•
In re Deutsch, 50	international aspects, 25-26
In re Freeman, 50, 52	patents, 23-25
In re Grams, 54	policy areas and options, 28-36, 184
In re Iwahashi, 54	software industry structure, 26-28
In re Johnson, 51	Italy
In re Johnston, 50	software piracy, 102
In re MacIlroy, 49	Ianan
In re Mahoney, 49	Japan
In re Meyer, 53	antitrust regimes, 190
In re Musgrave, 47,48	competition with U.S. software producers, 15
In re Nell, 50	markets, 96-97
In re Pardo, 53	Judicial system
In re Prater, 46-47	software 'protection process, 11-12
In re Richman, 50	Kewanee Oil case, 86
In re Sherwood, 44	Key Publications Inc. v. Chinatown Today Publishing Enter-
In re Taner, 53	prises Inc., 75
In re Toma, 50	Kregos v. Associated Press, 75
In re Waldbaum, 49,50	Kiegos v. Associatea i iess, 75
In re Walter, 51, 52	Landmine patents, 12, 35, 136
In re Yuan, 46	Levels of abstractions test, 72
Incentives	Libraries. See <i>also</i> Digital libraries
for cumulative research, 192-194	digital information and, 177-179
excessive, 188-190	effect of copyright, 19-20
India	
	fair use issues, 35-36
copyright and patent violations, 103 Industrial design protection, 76-77	on-line catalogs, 170, 179
Industrial design protection, 76-77	remote access to services, 178-179
	resource sharing, 178
perception of patent effectiveness, 190-192	Library of Congress
Installed base, 198-199	digital library prototype, 169
Intellectual property	MARC system, 170
economic issues, 20-21	Licenses, 107, 192

Literal code, 144	policy position arguments, 150-151
Lotus Development Corporation v. Paperback Software Inter-	response to court cases, 52-56
national, 13, 73, 142-143	Patent races, 192-194
Machine Readable Cataloging, 170	Patent Reform Act of 1967,45
MARC. See Machine Readable Cataloging	Patents. See also Patent law; Software patents; specific types of
Market entry, 190-191, 197	patents by name; U.S. Patent and Trademark Office
Mask work protection, 76	"best mode" requirement, 43-44
Mathematical algorithms, 10, 17, 23, 32-33,51-54, 133-134	biotechnology issues, 40-41
Mazer v. Stein, 186	doctrine of equivalents, 135
Mental steps doctrine, 46-52, 150	economics literature, 183-185
Menus, 128	examination quality and speed, 9, 24, 34-35
Midway Mfg. Co. v. Strohon, 69	external design protection, 139
Mixed-media databases, 169	fair use, 31
Mixed-media works	infringement issues, 135
converting works to digital form, 173	intention of U.S. system, 186-187
copyright protection, 36, 172-173	licenses, 192
Monopoly rights, 185-186	mathematical algorithms, 10, 17, 23, 32-33, 51-54, 133-134 nonobviousness, 43, 76
Motion Picture Association of America, 103	novelty, 42-43, 49-50, 76, 193
Multimedia databases, 169	obviousness test, 43
Multimedia works	patent system description, 39-45
converting works to digital form, 173	policy areas and options, 31-35
copyright protection, 36, 172-173	prior art, 6-7,8,33-35
Multiple inventors, 189-190	process, 43-45
Multivendor suit, 101	protection, 187-190, 192-193
Narrow patent protection, 193	rejection conditions, 42-43
National Commission on New Technological Uses of Copy-	statutory subject matter, 12, 32-33,4142, 133
righted Works	technical challenges, 23-25
computer-aided or computer-generated works, 112-113	term and breadth, 45, 194-197
computer program copyright recommendations, 60	trade secret law, 194
Copyright Act amendment recommendations, 67-68	utility, 42
objectives, 6	Yale study, 191-192
rule of doubt recommendations, 66	People's Republic of China
writing a program to perform a particular function, 145	copyright and patent violations, 103
NEC Corp. v. Intel Corp., 71-72, 145	Permissions
Network externalities, 197-199 Neural networks, 152	copyright and, 36
New Developments in Biotechnology; Patenting Life, 3,4041	Perseus project, 168-169
New Zealand	Photocopies, 176
software piracy, 101	Piracy, 15-16, 148
Noncommercial copying. See Home copying	counterfeiting, 99-100 end-user, 100-101
Nonexclusivity, 185	loss estimates, 98-99
Nonobviousness, 43, 76	overseas, 101-103
Novelty, 4243,49-50,76, 193	retail, 97-98, 99-100
Object and 120	trade issues and, 103-104
Object code, 130 and source code protection, 68-69	Plains Cotton Cooperative Association v. Goodpasture Com-
Obviousness, 43	puter Serv., Inc., 13,71
Omnibus Trade Act	Plant patents, 42
"Special 301," 104	Plant Variety Protection Act of 1970,41
On-line catalogs, 170, 179	Point of novelty test, 49-50
On-line Computer Library Center,, 170	Policy areas and options
On-line information retrieval service, 165-166	CONTU research, 184
Options. See Issues and options; Policy areas and options	copyright protection scope, 29-31
	libraries, 35-36
Parker v. Flook, 12, 32,42,50-51, 134, 138	patent protection scope, 31-35
Patent Act of 1952,39	principal policy areas, 28-36
Patent and Trademark Office, 109	PRC. See People's Republic of China
Patent design, 185, 194-197 Patent law. See <i>also</i> Patents; U.S. Patent and Trademark Office	Predatory pricing, 199 President's Coromission on the Patent System, 45
case law evolution, 45-52	President's Coremission on the Patent System, 45 Prior art issue, 6-7, 8, 33-35
mental steps doctrine, 150	Private copying. See Home copying
patent/trade secret/copyright laws relationships, 86-88	Program code
1 J J C C C C C C C C C C C C C C C C C	O

copies, 145-146	Software reuse, 154-155
definition, 18-19	Software technology
literal code, 144	changes since CONTU, 188-189
literal copying, 146	elements, 17-19, 125-126
nonliteral copying, 144-145	external design, 126-127
policy issues, 146	program code, 130
protected and unprotected elements, 146	1 6
protection, 144-146	program function, 126
screen display relationship, 153	user interface, 127-130
	Source code, 130
technology, 130	South Korea
Program function	software piracy, 102
definition, 17	Soviet Union
intellectual property protection of, 132-135	bilateral treaty, 115
software patent policy issues, 135-138	software piracy, 102-103
technology, 126	SPA. See Software Publishers' Association
Programm ing languages, 7, 127, 130	Spain
PTO. See U.S. Patent and Trademark Office	software piracy, 102
Public goods	SPI. See Software Patent Institute
rationale for granting rights, 185-186	SS0. See Structure, sequence, and organization
PVPA. See Plant Variety Protection Act of 1970	
	Standardization network externalities and, 198-199
Q-Co. Industries, Inc. v. Hoffman, 70, 145	·
	Structure, sequence, and organization, 69-72, 145, 151, 153
Reciprocity protection, 105	Study approach, 4-12
Recording Industry Association of America, 103	Substituting programs, 127
Research and development	Sui generis approaches, 7-8, 26-28, 75-76,78
optimal patent and, 194-196	Supreme Court. See also specific cases by name
underinvestment in, 184	authorship definition, 174
Research Libraries Information Network, 170	obviousness test, 43
Restatement of Torts, 79	statement on patents and copyright, 57
Retail piracy. See Piracy	Synercom Technology, Inc. v. University Computing Co., 72
Reverse engineering, 31, 76, 148, 150. See also Decompilation	, o,, , , , , , , , , , , , , , , , , ,
Romania	
bilateral treaty, 115	Technology transfer, 98-99
Royalties	Telemarketing v. Symantec, 142
collecting, 36	Term of a patent, 194-197
electronic publishing and, 175	Thailand
electronic paonishing and, 175	copyright and patent violations, 103
SAS Institute, Inc. v. S&H Computer Systems, Inc., 70, 145, 146	Trade Act of 1988, 103
Schroeder v. William Morrow & Company, 74	Trade-related intellectual property rights
SCPA. See Semiconductor Chip Protection Act of 1984	databases, 113
Semiconductor Chip Protection Act of 1984, 13, 27, 75	economic rights, 113
Sentry Market Research, 95	protection, 111-113
•	rental rights, 113
Small fins, 188	U.S. proposal to the GATT, 16, 110-114
Societal benefits	
cumulative technological progress, 192-194	Trade secret law
intellectual property systems and, 186-194	basis, 79
market entry, 190-191	external design protection, 139
stronger patent protections and, 187-190	in foreign countries, 89-90
Yale study, 191-192	object of, 78-79
Software debate	patent/trade secret/copyright laws relationships, 86-88, 183
complexity, 4-5	protection indicia, 82
evolution, 5-12	shrink wrap license, 84-86
stakeholder groups, 8-11	software and, 82, 84-86
Software development	Trade secrets, See also Trade secret law
policy position legal arguments, 153, 155-156	characteristics, 79, 82
Software industry	definition, 79
changes since CONTU, 188-189	economics of law, 194
global, 93-97	efforts to retain secrecy, 82
structure, 26-28	statutory subject matter, 12-13
Software Patent Institute, 34, 56	Treaties. See also specific treaties by name
Software patents, 32-33, 134-138	bilateral, 114-115
Software Publishers Association, 96, 98, 100, 101	TRIPS. See Trade-related intellectual property rights
Bottware 1 ubilisticis Association, 70, 70, 100, 101	TRIT 5. See Trade-Telated intellectual property rights

UCC. See Universal Copyright Convention copyright law protection, 151 UNESCO. See United Nations Educational, Scientific and design, 18, 128-129 **Cultural Organization** and network externalities, 198 Uniform Trade Secrets Act, 79 policy issues, 143-144 United Kingdom protected and unprotected elements, 142-143 software piracy, 102 standards, 143 United Nations Educational, Scientific and Cultural Organizatechnology, 127-130 tion, 106 User satisfaction, 197 Universal Copyright Convention, 16, 106, 115 USTR. See U.S. Trade Representative Uruguay Round, 107-109 Utility, 42 U.S. Congress. See also Copyright law; Patent law; Trade secret Utility patents, 42 law; specific laws by name statutory subject matter, 12 "fast-track" negotiating authority, 109, 110 UTSA. See Uniform Trade Secrets Act power to grant copyrights and patents, 185 U.S. Department of Commerce, 109 Vault Corp. v. Quaid Software Ltd., 86 U.S. Department of State, 109 U.S. Economic Policy Council, 103 West Publishing Co. v. Mead Data Central, 74 U.S. Patent and Trademark Office. See also Patent law; Patents; Whelan Assocs., Inc. v. Jaslow Dental Laboratory, Inc., 13, specific types of patents by name 69-70, 145, 146 administrative problems, 54-55 White Consolidated Industries, Inc. v. Vega Servo-Control, Inc., examination quality and speed, 9, 24, 34-35, 40 Freeman-Walter-Abele test, 133, 134, 137-138 Williams & Wilkins Co. v. United States, 64 mathematical algorithms guidelines, 133-134 Williams Electronics, Inc. v. Artic International Inc., 68 patent protection scope, 31-35 Windows, 128 program code, 132 WIPO. See World Intellectual Property Organization program examination guidelines, 45 Workalike programs, 127 response to court cases, 52-56 Workshop issues, 5 technological and institutional changes, 23-25 World Intellectual Property Organization, 106, 108 utility patent classes, 42 draft treaty, 11,56 U.S. Trade Representative, 103, 109-110 patent system modification treaty, 26 Wright v. Warner Books, 65 User interface case law, 72-73 Yale study, 191-192 constraints, 129-130