

Draft Standard for Information Technology— Portable Operating System Interface (POSIX[®])

Prepared by the Austin Group
(<http://www.opengroup.org/austin/>)

Copyright © 2001 The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA.

Copyright © 2001 The Open Group
Apex Plaza, Forbury Road, Reading, Berkshire RG11AX, UK.

All rights reserved.

Except as permitted below, no part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright owners. This is an unapproved draft, subject to change. Permission is hereby granted for Austin Group participants to reproduce this document for purposes of IEEE, the Open Group, and JTC1 standardization activities. Other entities seeking permission to reproduce this document for standardization purposes or other activities must contact the copyright owners for an appropriate license. Use of information contained within this unapproved draft is at your own risk.

Portions of this document are derived with permission from copyrighted material owned by Hewlett-Packard Company, International Business Machines Corporation, Novell Inc., The Open Software Foundation, and Sun Microsystems, Inc.

Index

1

2	<control>-V.....	2568	background work	
3	<control>-W	2569	at	2346
4	_POSIX_VDISABLE.....	3090	batch.....	2392
5	Account_Name	2310	bg.....	2410
6	actions equivalent to functions	2207	crontab.....	2476
7	admin.....	2328	fg.....	2643
8	ADV.....	2210	jobs	2720
9	AIO	2210	nice	2863
10	alias.....	2333	nohup.....	2875
11	alias substitution	2234	renice.....	3018
12	AND lists.....	2252	BAR.....	2210
13	AND-OR list	2251	basename.....	2389
14	appending redirected output	2245	batch.....	2392
15	ar	2336	batch administration.....	2306
16	archives		batch authorization.....	2305
17	ar command.....	2336	batch client-server interaction	2303
18	ARG_MAX.....	3259	batch environment	
19	arithmetic expansion	2243	services	2303
20	arithmetic language		utilities.....	2303
21	bc.....	2395	Batch Job Abort.....	2305, 2316
22	array identifiers.....	2400	batch job creation	2304
23	asa.....	2343	Batch Job Execution.....	2305, 2308
24	asynchronous lists.....	2252	Batch Job Exit	2305, 2315
25	at	2346	batch job identifier	2324
26	at-job.....	2346	Batch Job Message Request	2318
27	automatic storage class	2404	Batch Job Routing	2304, 2315
28	awk	2355	batch job states.....	2307
29	actions.....	2366	Batch Job Status Request.....	2319
30	arithmetic functions.....	2368	batch job tracking	2304
31	escape sequences.....	2364	batch notification.....	2306
32	expression patterns.....	2366	batch queue.....	2303
33	expressions	2358	Batch Queue Status Request	2321
34	functions.....	2368	Batch Server Restart.....	2316
35	grammar.....	2372	batch services	2306
36	input/output and general functions	2370	bc.....	2395
37	lexical conventions.....	2378	grammar	2396
38	output statements	2367	lexical conventions.....	2398
39	overall program structure	2357	operations	2400
40	pattern ranges	2366	operators	2400
41	patterns.....	2365	bcc (mailer blind carbon copy)	2807
42	regular expressions.....	2363	BC_BASE_MAX	2219
43	special patterns.....	2365	BC_DIM_MAX.....	2219
44	string functions.....	2369	BC_SCALE_MAX.....	2219
45	user-defined functions	2371	BC_STRING_MAX	2219, 2398
46	variables and special variables.....	2361	BE.....	2211
47			bg	2410

48	binary primaries	3106	compilers	
49	break.....	2267	c99.....	2413
50	break special built-in	2267	fort77.....	2663
51	builtin.....	2463	yacc.....	3261
52	c99.....	2413	compound commands.....	2253
53	external symbols.....	2417	compound-list.....	2251
54	standard libraries	2416	compress	2465
55	cal.....	2422	compression	
56	can.....	2201	compress	2465
57	carriage-control characters.....	2343	uncompress	3149
58	case conditional construct	2254	zcat	3277
59	cat.....	2424	concurrent execution of processes.....	2203
60	cc (mailer carbon copy)	2807	configuration values	2683
61	CD.....	2211	conforming application.....	2341
62	cd.....	2428	consequences of shell errors.....	2247
63	cflow.....	2432	continue	2271
64	changing the current working directory	2207	control characters	3087
65	character counting.....	3243	controlling terminal	2203
66	charmap		Coordinated Universal Time (UTC).....	2501
67	with localedef.....	2757	copy files commands	
68	writing names with locale	2752	cp	2468
69	charmap file.....	2756, 3090	dd.....	2503
70	CHAR_BIT.....	2549	ln	2748
71	Checkpoint.....	2310	mv.....	2854
72	checksums		pax	2900
73	cksum.....	2448	cp.....	2468
74	chgrp	2435	cpio format.....	2920
75	chmod	2438	CPT.....	2211
76	grammar.....	2441	CPU time.....	3115
77	chown.....	2444	cron daemon.....	2479
78	cksum.....	2448	crontab	2476
79	cmp.....	2453	CS.....	2211
80	codeset conversion.....	2705	csplit.....	2480
81	tr.....	3124	ctags.....	2484
82	COLL_WEIGHTS_MAX.....	2219	current working directory	2203
83	colon.....	2269	cut	2489
84	colon special built-in	2269, 2271	CX	2211
85	comm	2456	cxref.....	2493
86	command	2459	data keywords.....	2946
87	command mode.....	2537	date.....	2496
88	command search and execution.....	2249	conversion specifications	2496
89	command substitution	2242	modified conversion specifications.....	2497
90	communications commands		dd.....	2503
91	mailx	2785	default queue.....	2320
92	talk.....	3098	deferred batch services.....	2308
93	uucp	3163	Delete Batch Job Request	2317
94	uudecode.....	3167	delta.....	2512
95	uuencode.....	3170	destination	2325
96	uustat	3175	df.....	2516
97	uux.....	3178	diff.....	2520
98	write	3252	binary output format.....	2522

Index

99	default output format.....	2522	regular expressions.....	2538
100	directory comparison format.....	2521	shell escape command.....	2547
101	-c or -C output format.....	2523	substitute command.....	2545
102	-e output format.....	2523	undo command.....	2546
103	-f output format.....	2523	write command.....	2547
104	directory commands		edit buffer.....	2556, 3185
105	cd.....	2428	edit line.....	3053
106	pwd.....	2957	editors	
107	directory lister.....	2770	ed.....	2537
108	dirname.....	2527	ex.....	2556
109	disk space commands		sed.....	3039
110	df.....	2516	vi.....	3185
111	du.....	2530	ED_FILE_MAX.....	2549
112	ulimit.....	3138	ED_LINE_MAX.....	2549
113	documentation.....	2830	effective group ID.....	2203
114	dot.....	2273	effective user ID.....	2203
115	dot special built-in.....	2273	Eighth Edition UNIX.....	2463
116	double-quotes.....	2232	env.....	2553
117	du.....	2530	EPERM.....	2473
118	duplicating an input file descriptor.....	2246	Error_Path.....	2311
119	duplicating an output file descriptor.....	2247	escape character (backslash).....	2232
120	echo.....	2534	escape sequences	
121	ed.....	2537	awk.....	2364
122	addresses.....	2539	gencat.....	2673
123	append command.....	2541	lex.....	2739
124	change command.....	2541	establish the locale.....	2207
125	commands.....	2540	eval.....	2275
126	copy command.....	2546	eval special built-in.....	2275
127	delete command.....	2542	ex.....	2556
128	edit command.....	2542	<backslash>.....	2568
129	edit without checking command.....	2542	<control>-D command.....	2591
130	filename command.....	2542	<newline>.....	2568
131	global command.....	2542	abbreviate command.....	2571
132	global non-matched command.....	2547	addressing.....	2562
133	help command.....	2543	adjust window command.....	2589
134	help-mode command.....	2543	append command.....	2572
135	insert command.....	2543	args command.....	2572
136	interactive global command.....	2543	autoindent option.....	2593
137	interactive global not-matched command.....	2547	autoprint option.....	2594
138	join command.....	2544	autowrite option.....	2594
139	line number command.....	2547	beautify option.....	2594
140	list command.....	2544	change command.....	2572
141	mark command.....	2544	chdir command.....	2572
142	move command.....	2544	command descriptions.....	2569
143	null command.....	2548	copy command.....	2573
144	number command.....	2544	delete command.....	2573
145	print command.....	2545	directory option.....	2594
146	prompt command.....	2545	edcompatible option.....	2594
147	quit command.....	2545	edit command.....	2573
148	quit without checking command.....	2545	edit options.....	2593
149	read command.....	2545	errorbells option.....	2595

150	escape command.....	2590	tag command	2585
151	execute command.....	2592	taglength option.....	2598
152	exrc command.....	2595	tags command.....	2599
153	file command.....	2574	term command.....	2599
154	global command.....	2574	terse command	2599
155	ignorecase option.....	2595	unabbrev command.....	2586
156	initialization	2559	undo command.....	2586
157	input editing.....	2567	unmap command.....	2586
158	insert command.....	2575	version command.....	2586
159	join command	2575	visual command.....	2587
160	list command.....	2576, 2595	warn command.....	2599
161	magic command.....	2595	window command.....	2599
162	map command.....	2577	wrapmargin option.....	2600
163	mark command.....	2578	wrapscan option.....	2600
164	mesg command.....	2595	write command.....	2587
165	move command.....	2579	write line number command	2591
166	next command.....	2579	writeln option	2600
167	number command.....	2580	xit command	2588
168	number option.....	2596	yank command	2588
169	open command.....	2580	exec.....	2277
170	paragraphs option.....	2596	Fam.....	2876
171	preserve.....	2556	exec family	2463, 2861, 3259
172	preserve command	2580	exec special built-in.....	2277
173	print command.....	2580	Execution_Time	2312
174	prompt command	2596	EXINIT.....	2556
175	put command.....	2581	exit	2279
176	quit command.....	2581	exit special built-in.....	2279
177	read command.....	2581	exit status and errors	2247
178	readonly command.....	2596	exit status for commands.....	2248
179	recover command	2582	expand	2627
180	redraw command.....	2597	export	2281
181	regular expressions.....	2592	export special built-in.....	2281
182	remap command	2597	expr.....	2630
183	replacement strings.....	2592	matching expression.....	2632
184	report command.....	2597	string operand.....	2632
185	rewind command.....	2582	expression argument	2367
186	scroll command.....	2567, 2597	expression list.....	2367
187	sections command	2597	EXPR_NEST_MAX.....	2219
188	set command.....	2583	extended regular expression.....	2355, 2363
189	shell command.....	2583	2472, 2655, 2694, 2738, 2856, 2909
190	shell option.....	2598	3023, 3257
191	shift left command.....	2591	extension	
192	shift right command.....	2591	CX.....	2211
193	shiftwidth option.....	2598	OH.....	2213
194	showmatch option.....	2598	XSI	2217
195	showmode command.....	2598	false.....	2635
196	slowopen command	2598	fc	2637
197	source command	2583	FD.....	2211
198	substitute command.....	2584	fg.....	2643
199	suspend command.....	2585	field splitting	2243
200	tabstop option.....	2598	FIFO special files	2840

Index

201	file	2645	dd.....	2503
202	file access permissions	2204	expand.....	2627
203	file comparisons		fold.....	2660
204	cmp.....	2453	head.....	2702
205	comm.....	2456	iconv.....	2705
206	diff.....	2520	more.....	2842
207	uniq.....	3157	nl.....	2866
208	file contents.....	2206	paste.....	2886
209	file conversion		pax.....	2900
210	cut.....	2489	pr.....	2935
211	dd.....	2503	read.....	3015
212	expand.....	2627	sed.....	3039
213	fold.....	2660	tail.....	3095
214	head.....	2702	tee.....	3102
215	join.....	2724	tr.....	3124
216	od.....	2878	uncompress.....	3149
217	paste.....	2886	unexpand.....	3152
218	patch.....	2890	zcat.....	3277
219	sort.....	3068	find.....	2652
220	strings.....	3077	fold.....	2660
221	tail.....	3095	for loop.....	2253
222	tr.....	3124	fort77.....	2663
223	tsort.....	3132	external symbols.....	2666
224	unexpand.....	3152	standard libraries.....	2665
225	uniq.....	3157	FR.....	2211
226	uudecode.....	3167	FSC.....	2211
227	uuencode.....	3170	function definition command.....	2256
228	file creation.....	2204	function identifiers.....	2400
229	file descriptor.....	2203, 2244	fuser.....	2669
230	file mode creation mask.....	2203	g-file.....	2512
231	file permission commands		gencat.....	2672
232	chgrp.....	2435	escape sequences.....	2673
233	chmod.....	2438	generated file.....	2512
234	chown.....	2444	get.....	2675
235	umask.....	3140	getconf.....	2683
236	file read.....	2204	getopts.....	2689
237	file removal.....	2206	global storage class.....	2404
238	file searching		GNU make.....	2826
239	grep.....	2694	grep.....	2694
240	file time values.....	2206	grouping commands.....	2253
241	file tree commands		hash.....	2699
242	diff.....	2520	head.....	2702
243	find.....	2652	here-document.....	2246
244	ls.....	2770	history command	
245	mkdir.....	2837	fc.....	2637
246	rmdir.....	3029	Hold Batch Job Request.....	2318
247	file write.....	2204	Hold_Types.....	2312
248	filters		HOME.....	2572
249	asa.....	2343	hunk.....	2892
250	awk.....	2355	iconv.....	2705
251	compress.....	2465	id.....	2708

252	if conditional construct	2254	command escapes	2803
253	implementation-defined	2201	commands	2795
254	inference rule	2809	copy messages	2796
255	input field separator	3050	declare aliases	2795
256	input mode.....	2537	declare alternatives.....	2796
257	IP6.....	2212	delete aliases.....	2802
258	ipcrm	2712	delete messages	2796
259	ipcs.....	2714	delete messages and display.....	2797
260	jobs.....	2720	direct messages to mbox.....	2799
261	Job_Owner	2312	discard header fields.....	2796
262	join	2724	display beginning of messages.....	2802
263	Join_Path	2312	display current message number.....	2803
264	Keep_Files.....	2312	display header summary	2798
265	keyword-value pairs.....	2325	display list of folders	2798
266	kill	2729	display message.....	2800
267	legacy	2201	display message size	2801
268	lex.....	2734	echo a string	2797
269	actions.....	2740	edit message.....	2797, 2802
270	definitions	2736	execute commands conditionally	2799
271	escape sequences.....	2739	exit	2797
272	regular expressions	2738	follow up specified messages.....	2798
273	rules.....	2737	help.....	2798
274	table sizes	2737	hold messages.....	2798
275	user subroutines	2738	internal variables.....	2792
276	lex, translation table.....	2744	invoke a shell.....	2801
277	libraries		invoke shell command	2803
278	ar command.....	2336	list available commands	2799
279	LIMIT	2218	mail a message.....	2799
280	line counting.....	3243	null command.....	2803
281	LINE_MAX.....	2219, 2356, 2549-2550	pipe message.....	2799
282	2557, 2806, 3047, 3160	process next specified message.....	2799
283	link.....	2746	quit	2800
284	lists.....	2251	read mailx commands from a file	2801
285	AND-OR	2251	receive mode	2785
286	compound-list.....	2251	reply to a message.....	2800
287	ln	2748	reply to a message list	2800
288	locale	2752	retain header fields	2801
289	localedef	2757	save messages	2801
290	Locate Batch Job Request.....	2319	scroll header display.....	2803
291	locking file.....	2442	send mode.....	2785
292	logger	2761	set variables.....	2801
293	logname	2763	start-up	2792
294	lp	2765	touch messages.....	2802
295	LR(1) grammars	3275	undelete messages	2802
296	ls.....	2770	unset variables	2802
297	m4	2778	write messages to a file	2802
298	macro processor.....	2778	Mail_Points	2313
299	magic file	2650	Mail_Users	2313
300	mailx.....	2785	make.....	2809
301	change current directory.....	2796	default rules.....	2819
302	change folder.....	2797	inference rules.....	2816

Index

303	internal macros	2818	MPR.....	2213
304	libraries.....	2817	MSG.....	2213
305	macros	2815	mv.....	2854
306	makefile execution.....	2813	MX.....	2213
307	makefile syntax.....	2812	NAME_MAX.....	2340, 2926
308	target rules.....	2813	newgrp.....	2859
309	make, GNU version	2826	NGROUPS_MAX	2862
310	man.....	2830	nice.....	2863
311	may.....	2202	Ninth Edition UNIX.....	2407, 2536, 2944
312	MC1.....	2212	nl.....	2866
313	MC2.....	2212	nm.....	2870
314	mesg.....	2834	noclobber option.....	2899
315	message catalog generation	2672	nohup.....	2875
316	MF.....	2212	non-printable.....	2549, 3046, 3101
317	MIL-STD-1753.....	2667	OB.....	2213
318	Minimum_Cpu_Interval.....	2310	object files.....	2870
319	mkdir.....	2837	od.....	2878
320	mkfifo.....	2840	OF.....	2213
321	ML.....	2212	OH.....	2213
322	MLR.....	2212	open file descriptors for reading and writing	2247
323	Modify Batch Job Request	2319	open mode	2556
324	MON.....	2213	option	
325	more	2842	ADV.....	2210
326	discard and refresh	2848	AIO.....	2210
327	display position.....	2851	BAR.....	2210
328	examine new file.....	2850	BE.....	2211
329	examine next file	2850	CD.....	2211
330	examine previous file	2850	CPT.....	2211
331	go to beginning of file.....	2848	CS.....	2211
332	go to end-of-file	2848	FD.....	2211
333	go to tag.....	2850	FR.....	2211
334	help.....	2847	FSC.....	2211
335	invoke editor	2850	IP6.....	2212
336	mark position.....	2849	MC1.....	2212
337	quit	2851	MC2.....	2212
338	refresh the screen.....	2848	MF.....	2212
339	repeat search	2849	ML.....	2212
340	repeat search in reverse	2850	MLR.....	2212
341	return to mark.....	2849	MON.....	2213
342	return to previous position	2849	MPR.....	2213
343	scroll backward one half screenful.....	2848	MSG.....	2213
344	scroll backward one line.....	2847	MX.....	2213
345	scroll backward one screenful.....	2847	PIO.....	2213
346	scroll forward one half screenful	2848	PS.....	2214
347	scroll forward one line	2847	RS.....	2214
348	scroll forward one screenful	2847	RTS.....	2214
349	search backward for pattern.....	2849	SD.....	2214
350	search forward for pattern	2849	SEM.....	2214
351	skip forward one line.....	2848	SHM.....	2214
352	motion command.....	3054	SIO.....	2214
353	Move Batch Job Request	2320	SPI.....	2214

354	SPN.....	2215	pax.....	2900
355	SS.....	2215	archive character set encoding/decoding...	2931
356	TCT.....	2215	cpio file data.....	2922
357	TEF.....	2215	cpio filename.....	2922
358	THR.....	2215	cpio header.....	2920
359	TMO.....	2215	cpio interchange format.....	2920
360	TMR.....	2215	cpio special entries.....	2922
361	TPI.....	2216	extended header.....	2913
362	TPP.....	2216	extended header file times.....	2916
363	TPS.....	2216	extended header keyword precedence.....	2916
364	TRC.....	2216	list mode format specifications.....	2908
365	TRI.....	2216	ustar format.....	2916
366	TRL.....	2216	ustar interchange format.....	2916
367	TSA.....	2216	PIO.....	2213
368	TSF.....	2216	pipelines.....	2250
369	TSH.....	2217	portable character set.....	2815
370	TSP.....	2217	positional parameters.....	2235
371	TSS.....	2217	POSIX2_BC_BASE_MAX.....	2218-2219
372	TYM.....	2217	POSIX2_BC_DIM_MAX.....	2218-2219
373	UP.....	2217	POSIX2_BC_SCALE_MAX.....	2218-2219
374	XSR.....	2217	POSIX2_BC_STRING_MAX.....	2218-2219
375	OR lists.....	2253	POSIX2_COLL_WEIGHTS_MAX.....	2218-2219
376	ordinary identifiers.....	2400	POSIX2_EXPR_NEST_MAX.....	2218-2219
377	Output_Path.....	2313	POSIX2_LINE_MAX.....	2218, 2220
378	paginators		POSIX2_RE_DUP_MAX.....	2218, 2220
379	more.....	2842	POSIX2_SYMLINKS.....	2220
380	parameter expansion.....	2239	POSIX2_VERSION.....	2218
381	parameters and variables.....	2235	pr.....	2935
382	paste.....	2886	print-related commands	
383	patch.....	2890	fold.....	2660
384	filename determination.....	2893	lp.....	2765
385	patch application.....	2893	pr.....	2935
386	patchfile format.....	2892	printf.....	2940
387	pathchk.....	2896	Priority.....	2314
388	pathname expansion.....	2244	privileges.....	2835, 2865
389	pathname manipulation		process attributes.....	2203
390	basename.....	2389	process group ID.....	2203
391	dirname.....	2527	process ID.....	2203
392	pathchk.....	2896	process status report.....	2950
393	pathname resolution.....	2207	prs.....	2945
394	PATH_MAX.....	2219, 2932, 3025	PS.....	2214
395	pattern matching.....	2652, 2909, 3164, 3180	ps.....	2950
396	definition.....	2264	public locale.....	2752
397	in case statements.....	2254	pwd.....	2957
398	in shell variables.....	2240	qalter.....	2959
399	pattern matching notation.....	2264, 2658, 2925	qdel.....	2968
400	pattern scanning and processing language		qhold.....	2971
401	at.....	2355	qmove.....	2974
402	patterns matching a single character.....	2264	qmsg.....	2977
403	patterns matching multiple characters.....	2264	qrerun.....	2980
404	patterns used for filename expansion.....	2265	qrls.....	2982

Index

405	qselect	2985	unset	3155
406	qsig	2994	val	3182
407	qstat	2997	what	3246
408	qsub	3002	SD	2214
409	Queue Batch Job Request.....	2320	search pattern.....	2484
410	quote removal	2244	sed.....	3039
411	quoting.....	2232	addresses.....	3041
412	read.....	3015	editing commands	3041
413	readonly.....	2283	regular expressions.....	3041
414	readonly special built-in	2283	Select Batch Jobs Request	2322
415	real group ID	2203	SEM	2214
416	real user ID.....	2203	sequential lists.....	2252
417	redirecting input.....	2245	Server Shutdown Request	2322
418	redirecting output	2245	Server Status Request	2323
419	redirection.....	2244	session membership.....	2203
420	regular expressions	2363, 2472, 2538	set.....	2287
421	2562, 2592, 2632, 2655, 2694, 2738, 2846	set special built-in.....	2287
422	2856, 2866, 2906, 3023, 3041, 3202, 3205	set-group-ID.....	2203, 2474
423	3257	set-user-ID.....	2203, 2443, 2474
424	related to shell patterns.....	2264	set-user-ID scripts	3062
425	relational database operator	2724	sh.....	3048
426	Release Batch Job Request.....	2321	command history list.....	3052
427	remove directories.....	3029	command line editing	3052
428	remove files	3022	vi line editing command mode	3054
429	renice.....	3018	vi line editing insert mode.....	3053
430	requested batch services	2317	vi-mode command line editing.....	3053
431	Rerun Batch Job Request.....	2322	shall	2202
432	Rerunable	2314	shell command language.....	2231
433	reserved words	2235	alias substitution	2234
434	Resource_List	2314	appending redirected output.....	2245
435	return.....	2285	arithmetic expansion	2243
436	return special built-in	2285	command substitution.....	2242
437	RE_DUP_MAX.....	2219	compound commands	2253
438	rm.....	3022	consequences of shell errors	2247
439	rm del.....	3027	double-quotes	2232
440	rm dir	3029	duplicating an input file descriptor.....	2246
441	root directory.....	2203	duplicating an output file descriptor.....	2247
442	RS	2214	escape character (backslash).....	2232
443	RTS	2214	exit status and errors	2247
444	sact.....	3031	exit status for commands	2248
445	saved set-group-ID	2203	field splitting	2243
446	saved set-user-ID.....	2203	function definition command.....	2256
447	sccs.....	3034	grammar.....	2257
448	SCCS commands		here-document.....	2246
449	admin.....	2328	introduction.....	2231
450	delta.....	2512	lists	2251
451	get.....	2675	open file descriptors for reading and writing.....	2247
452	prs.....	2945	parameter expansion.....	2239
453	rm del.....	3027	parameters and variables	2235
454	sact.....	3031	pathname expansion	2244
455	sccs	3034		

456	pattern matching notation.....	2264	sort.....	3068
457	patterns matching a single character.....	2264	special built-in.....	2463, 2865
458	patterns matching multiple characters.....	2264	2877, 2958, 3062, 3115, 3131
459	patterns used for filename expansion.....	2265	special built-in utilities.....	2266
460	pipelines.....	2250	break.....	2267, 2271
461	positional parameters.....	2235	characteristics.....	2266
462	quote removal.....	2244	colon.....	2269
463	quoting.....	2232	dot.....	2273
464	redirecting input.....	2245	eval.....	2275
465	redirecting output.....	2245	exec.....	2277
466	redirection.....	2244	exit.....	2279
467	reserved words.....	2235	export.....	2281
468	shell commands.....	2248	readonly.....	2283
469	shell execution environment.....	2263	return.....	2285
470	shell grammar lexical conventions.....	2257	set.....	2287
471	shell grammar rules.....	2257	shift.....	2293
472	shell variables.....	2236	times.....	2295
473	signals and error handling.....	2262	trap.....	2297
474	simple commands.....	2248	unset.....	2300
475	single-quotes.....	2232	special parameters.....	2235
476	special built-in utilities.....	2266	special targets.....	2814
477	special parameters.....	2235	SPI.....	2214
478	tilde expansion.....	2239	split.....	3074
479	token recognition.....	2233	split files	
480	word expansions.....	2238	csplit.....	2480
481	shell commands.....	2248	split.....	3074
482	shell execution environment.....	2263	SPN.....	2215
483	2334, 3017, 3142	spoofing.....	2284
484	shell grammar.....	2257	SS.....	2215
485	shell grammar lexical conventions.....	2257	standard error.....	2244
486	shell grammar rules.....	2257	standard input.....	2244
487	shell introduction.....	2231	standard output.....	2244
488	shell variables.....	2236	strings.....	3077
489	Shell_Path_List.....	2314	strip.....	3080
490	shift.....	2293	stty.....	3082
491	shift special built-in.....	2293	combination modes.....	3087
492	SHM.....	2214	control modes.....	3082
493	should.....	2202	input modes.....	3083
494	SIGCONT.....	2559	local modes.....	3085
495	SIGHUP.....	2538, 2559, 3185, 3226	output modes.....	3084
496	SIGINT.....	2538, 2558, 3238	special control character assignments.....	3086
497	Signal Batch Job Request.....	2323	st_gid.....	2341
498	signal processes.....	2729	st_mode.....	2341
499	signals and error handling.....	2262	st_mtime.....	2341
500	SIGQUIT.....	2538	st_size.....	2341
501	SIGTERM.....	2559	st_uid.....	2341
502	simple commands.....	2248	superuser.....	2641, 2776, 2924
503	single-quotes.....	2232	supplementary group IDs.....	2203
504	SIO.....	2214	system configuration values.....	2683
505	sleep.....	3065	system name.....	3146
506	SLR(1) grammars.....	3275	tabs.....	3091

Index

507	tag file creation.....	2484	unalias.....	3144
508	tail.....	3095	uname.....	3146
509	talk.....	3098	unary primaries.....	3106
510	tar format.....	2916	uncompress.....	3149
511	target queue.....	2320	undefined.....	2202
512	target rule.....	2809	unexpand.....	3152
513	TCT.....	2215	unset.....	3155
514	tee.....	3102	uniq.....	3157
515	TEF.....	2215	unlink.....	3161
516	terminal characteristics		unset.....	2300
517	stty.....	3082	unset special built-in.....	2300
518	tabs.....	3091	unspecified.....	2202
519	tput.....	3121	until loop.....	2255
520	tty.....	3134	UP.....	2217
521	terminate processes.....	2729	user identity	
522	terminology.....	2201	id.....	2708
523	test.....	3105	logname.....	2763
524	THR.....	2215	newgrp.....	2859
525	tilde expansion.....	2239	who.....	3248
526	time.....	3113	User_List.....	2315
527	times.....	2295	ustar format.....	2916
528	times special built-in.....	2295	utility option parsing.....	2689
529	TMO.....	2215	uucp.....	3163
530	TMPDIR.....	2904	uudecode.....	3167
531	TMR.....	2215	uencode.....	3170
532	token recognition.....	2233	uustat.....	3175
533	touch.....	3117	uux.....	3178
534	TPI.....	2216	val.....	3182
535	TPP.....	2216	Variable_List.....	2315
536	TPS.....	2216	vi.....	3185
537	tput.....	3121	<ESC>.....	3225
538	tr.....	3124	append.....	3206
539	Track Batch Job Request.....	2323	change.....	3207
540	trap.....	2297	change to end-of-line.....	3207
541	trap special built-in.....	2297	clear and redisplay.....	3193
542	TRC.....	2216	command descriptions.....	3186
543	TRI.....	2216	control-D.....	3222
544	TRL.....	2216	control-H.....	3222
545	trojan horse.....	2776	control-T.....	3224
546	true.....	3130	control-U.....	3224
547	TSA.....	2216	control-V.....	3224
548	TSF.....	2216	current and line above.....	3200
549	TSH.....	2217	delete.....	3208
550	tsort.....	3132	delete character.....	3217-3218
551	TSP.....	2217	delete to end-of-line.....	3208
552	TSS.....	2217	display information.....	3192
553	tty.....	3134	edit the alternate file.....	3194
554	TYM.....	2217	enter ex mode.....	3214
555	type.....	3136	execute.....	3205
556	ulimit.....	3138	execute an ex command.....	3204
557	umask.....	3140	exit.....	3220

558	find character	3209	undo	3216
559	find regular expression	3202	undo current line	3216
560	Initialization	3186	yank.....	3218
561	input mode commands	3220	yank current line.....	3218
562	insert.....	3210-3211	visual mode	2556
563	insert empty line	3212-3213	wait.....	3239
564	join.....	3211	warning	
565	mark position	3211	OB.....	2213
566	move back	3200, 3206	OF	2213
567	move cursor	3192, 3195-3196, 3215	wc.....	3243
568	move down.....	3193	what.....	3246
569	move forward	3200	while loop	2255
570	move to bigword.....	3209, 3217	who.....	3248
571	move to bottom of screen.....	3211	word counting.....	3243
572	move to first character in line	3203	word expansions	2238
573	move to first non-<blank>.....	3199	write	3252
574	move to line	3210	xargs	3255
575	move to matching character	3196	XSI.....	2217
576	move to middle of screen	3212	XSR	2217
577	move to next section.....	3199	yacc.....	3261
578	move to specific column.....	3201	algorithms.....	3272
579	move to top of screen.....	3210	code file	3263
580	move to word	3209, 3216	completing the program	3272
581	move up	3193	conflicts	3270
582	newline	3223	debugging the parser.....	3272
583	nul	3222, 3225	declarations section	3264
584	page backwards.....	3191	description file	3263
585	page forward.....	3192	error handling	3270
586	put from buffer	3213	grammar rules.....	3266
587	redraw screen.....	3194	header file	3263
588	redraw window	3219	input grammar.....	3268
589	regular expression.....	3205	input language.....	3263
590	repeat	3201	interface to the lexical analyzer.....	3271
591	repeat find	3204, 3212	lexical structure of the grammar.....	3264
592	repeat substitution.....	3197	library.....	3272
593	replace character.....	3214-3215	limits	3273
594	replace text with command	3195	programs section.....	3267
595	return to previous context.....	3197-3198	zcat.....	3277
596	return to previous section	3198		
597	reverse case.....	3205		
598	reverse find character.....	3201		
599	scroll backward.....	3194		
600	scroll backward by line	3194		
601	scroll forward.....	3191		
602	scroll forward by line	3191		
603	search for tagstring	3195		
604	shift left.....	3204		
605	shift right.....	3204		
606	substitute character.....	3215		
607	substitute lines.....	3215		
608	terminate command or input mode.....	3194		