

LOWERCASE

straight>straight
(udlijqhmna)R
L(ublijphmnr)

nonnnnnono
nonnunono
nonnbnono
nonninono
nonnjnono
nonnpnono
nonuunono
nonubnono
nonuinono
nonujnono
nonupnono
nonunnono
nonqunono
nonqbnono
nonqinono
nonqjnono
nonqpnono
nonqnnono
nonjunono
nonjbnono
nonjinono
nonjjnono
nonjpnono
nonjnnono
nonnunono
nonnbnono

nonninono
nonnjnono
nonnpnono
nonnnnono
nonaunono
nonabnono
nonainono
nonajnono
nonapnono
nonannono
noniunono
nonibnono
noniinono
nonijnono
nonipnono
noninnono

straight>full round
(udlijqhmna)R L
(ceodqgð)
nonuonono
nonugnono
nonuðnono
nonqonono
nonqgnono
nonqðnono
nonjonono
nonjgnono
nonjðnono
nonionono
nonignono

noniðnono
nonnonono
nonngnono
nonnðnono
nononono

(bpo)R L(ublijphmnr)
nonounono
nonobnono
nonojonon
nonoionon
nonononon

straight>small round
(udlijqhmna)R L(as)
nonuanono
nonusnono
nonqanono
nonqsnono
nonjanono
nonjsnono
nonaanono
nonasnono
nonianono
nonisnono
nonlanono
nonlsnono
nonnanono
nonnsnono

(s)R L(ublijphmnr)
nonsunono

nonsbnono
nonsnonon
nonsjnonon
nonslnonon

straight>void
(udlijqhmna)R
L(vwyzx)

nonavnono
nonaynono
nonaznono
nonaxnono
nonuvnono
nonuynono
nonuznono
nonuxnono
nonqvnono
nonqwnono
nonqynono
nonqznono
nonqxnono
nonjvnono
nonjynono
nonjznono
nonjxnono
nonivnono
noniynono
noniznono
nonixnono
nonvnono

nonynono
nonznono
nonxnono

(kvwyzxr)R
L(ublijphmnr)
nonrunono
nonrlnono
nonrjnono
nonrpnono
nonrbnono

nonknono
nonklnono
nonkjonono
nonkpnono
nonkbnono

nonvunono
nonvlnono
nonvjnono
nonvpnono
nonvbnono

nonzunono
nonzlnono
nonzjnono
nonzpnono
nonzbnono

nonxunono
nonxlnono

nonxjnono
nonxpnono
nonxbnono

straight>open
(udlijgqhmna)R L(afts)
nonufnono
nonuanono
nonutnono
nonusnono
nonqfnono
nonqanono
nonqtnono
nonqsnono
nonjfnono
nonjanono
nonjtnono
nonjsnono
nonnfnon
nonnanon
nonntnon
nonnsnon

(ctfre) R L(ublijphmnr)

noncunono
noncbnono
noncnnonon
noncjnonon
nonclnonon
noncpnonon
nontunono

nontbnono
nontnonon
nontjnonon
nontlonon
nontpnnonon
nonfunono
nonfbnono
nonfnnonon
nonfjnonon
nonflnonon
nonfpnnonon
nonrunono
nonrbnono
nonrnnonon
nonrjnonon
nonrlnonon
nonrpnnonon
noneunono
nonebnono
nonenonon
nonejnonon
nonelonon
nonepnnonon

full round >full round
(bpo)R L (ceodqgð)

nonocnono
nonoenono
nonognono
nonoðnono
nonpdnonon

nonooonon

full > small
(bpo)R L(as)
nonoanono
nonpaonon
nonosnono
nonpsonon

(as) R L (ceodqgð)

nonaonono
nonaenono
nonagnono
nonadnono
nonaðnono
nonsonono
nonsenono
nonsgnono
nonsdnono
nonsðnono

full > void
(bpog)R L(vwyzx)
nonovnono
nonpvnnon
nonbvnnono
nongvnnono
nonownnono
nonpwonon
nonbwnnono
nongwnnono

nonoynono
nonpyonon
nonbynono
nongynono
nonoznono
nonpzonon
nonbznono
nongznono
nonoxnono
nonpxnonon
nonbxnono
nongxnono
nongxnono

(kvwyzx)R L (ceodqgđ)
nonkonono
nonvonono
nonwoonon
nonyoonon
nonkđnono
nonvđnono
nonwđnonon
nonyđnonon
nonzđnonon
nonxđnonon
nonkdnono
nonvdnono
nonwdnonon
nonydonon
nonzdnnonon
nonxdnonon

nonkgnono
nonvgnono
nonwgonon
nonygonon
nonzgnnonon
nonxgnnonon
nonkenono
nonvenono
nonweonon
nonyeonon
nonzenonon
nonxenonon

full>open
(bpo)R L(fts)

nonofnono
nonpfonon
nonbfnono
nonotnono
nonptnonon
nonbbtnono
nonosnono
nonpsonon
nonbsnono
nonoanono
nonpaonon
nonbanono

(ctfre) R L (ceodqgđ)
noncononon
noncdnonon

noncgnnonon
noncđnonon
nontononon
nontdnnonon
nontgnnonon
nontđnonon
nonfononon
nonfdnonon
nonfgnnonon
nonfđnonon
nonrononon
nonrdsnnonon
nonrgnnonon
nonrđnonon
noneononon
nonednonon
nonegnnonon
noneđnonon

small>small
(s)R L(as)
nonsanonon
nonssnonon

small>void
(s)R L(vwyzx)
nonsvnonon
nonswnnonon
nonsynnonon
nonsznnonon
nonsxnnonon

(kvwyzx)R L(as)
nonkanonon
nonksnonon
nonvanonon
nonvsnonon
nonwanonon
nonwsnonon
nonyanonon
nonysnonon
nonzanonon
nonzsnnonon
nonxanonon
nonxsnonon

small>open
(s)R L(fts)
nonsfnonon
nonstnonon
nonssnonon

(ctfre) R L(as)
noncanonon
noncsnonon
nontanonon
nontsnnonon
nonfanonon
nonfsnonon
nonranonon
nonrsnonon
noneanonon
nonesnonon

void>void
(kvwyzx)R L(vwyzx)
nonkvnnonon
nonkwnnonon
nonkynnonon
nonkznnonon
nonkxnnonon
nonvvnnonon
nonvwnnonon
nonvynnonon
nonvznnonon
nonvxnononon
nonwvnnonon
nonwwnononon
nonwynnonon
nonwznnonon
nonwxnononon
nonyvnnonon
nonywnnonon
nonyynnonon
nonyznnonon
nonyxnnonon
nonzvnnonon
nonzwnnonon
nonzynnonon
nonzznnonon
nonzxnononon
nonxvnnonon
nonxwnnonon
nonxynnonon
nonxznononon
nonxxnononon

void>open
(kvwyzx)R L(fts)
nonkfnnonon
nonktnnonon
nonksnononon
nonvfnnonon
nonvtnononon
nonvsnononon
nonwfnnonon
nonwtnononon
nonwsnononon
nonyfnnonon
nonytnnonon
nonysnnononon
nonzfnnonon
nonztnnonon
nonzsnnonon
nonxfnnonon
nonxtnononon
nonxsnononon

(ctfre) R L(vwyzx)
noncvnnonon
noncwnnonon
noncynnonon
noncznnonon
noncxnononon
nontvnnonon
nontwnnonon

nontynnonon
nontznnonon
nontxnnonon
nonfvnnonon
nonfwnnonon
nonfynnonon
nonfznnonon
nonfxnnonon
nonrvnnonon
nonrwnnonon
nonrynononon
nonrznnonon
nonrxnnonon
nonevnnonon
newnononon
noneynnonon
noneznnonon
nonexnononon

open>open
(ctfre) R L(fts)
noncfnononon
nonctnononon
noncsnononon
nontfnnonon
nonttnnonon
nontsnnononon
nonffnnonon
nonftnnonon
nonfsnononon
nonrfnnonon
nonrtnononon

nonrsnononon
nonefnnonon
nonetnononon
nonesnononon

UPPERCASE

straight>straight
(HMNUIJ)R
L(HMNUIKLPRBEFÐ)
HOHHHHHOH
HOHHMHOH
HOHHNHOH
HOHHUHOH
HOHHIHOH
HOHHKHOH
HOHHLHOH
HOHHÐHOH

HOHMHHOH
HOHMMHOH
HOHMNHOH
HOHMUHOH
HOHMIHOH
HOHMKHOH
HOHMLHOH
HOHMÐHOH

HOHNHHHOH
HOHNMHHOH
HOHNNNHOH

HOHNUHOH		L(HMNUIKLPREFD)	HOHHAHOH
HOHNIHOH	straight>full round	HOHRHHOH	HOHNAHOH
HOHNKHOH	(HMNUIJ)R L (CGOQ)	HOHRNHOH	HOHUAHOH
HOHNLHOH	HOHHOHOH	HOHRUHOH	
HOHNÐHOH	HOHNOHOH	HOHRÐHOH	
	HOHUOHOH	HOHBHHOH	(WVYZXAKR)R
HOHUHHOH	HOHHCHOH	HOHBNHOH	L(HMNUIKLPREFD)
HOHUMHOH	HOHNCHOH	HOHBUHOH	HOHWUHOH
HOHUNHOH	HOHUCHOH	HOHBÐHOH	HOHWHHOH
HOHUUHOH		HOHPHHOH	HOHVUHOH
HOHUIHOH	(DOQF)R	HOHPNHOH	HOHVHHOH
HOHUKHOH	L(HMNUIKLPREFD)	HOHPUHOH	HOHYUHOH
HOHULHOH	HOHOUHOH	HOHPÐHOH	HOHYHHOH
HOHUÐHOH	HOHQUHOH		HOHZUHOH
	HOHDUHOH		HOHZHHOH
HOHIHHOH	HOHPUHOH	straight>void	HOHXUHOH
HOHIMHOH	HOHOHHOH	(HMNUIJ)R L(WVYZXA)	HOHXHHOH
HOHINHOH	HOHQHHOH	HOHHVHOH	HOHAUHOH
HOHIUHOH	HOHDHHOH	HOHNVHOH	HOHAHHOH
HOHIIHOH	HOHPHHOH	HOHUVHOH	HOHKUHOH
HOHIKHOH	HOHOÐHOH	HOHHWHOH	HOHKHHOH
HOHILHOH	HOHQÐHOH	HOHNWHOH	HOHRUHOH
HOHIÐHOH	HOHDÐHOH	HOHUWHOH	HOHRHHOH
	HOHPÐHOH	HOHHYHOH	
HOHJHHOH		HOHNYHOH	straight>open
HOHJMH OH	straight>small round	HOHUYHOH	(HMNUIJ)R L(TJS)
HOHJNHOH	(HMNUIJ)R L(S)	HOHHZHOH	OHOHTHOH
HOHJUHOH	OHOHSHOH	HOHNZHOH	OHOHTHOH
HOHJIHOH	OHONSHOH	HOHUZHOH	OHOUTHOH
HOHJKHOH	OHOUSHOH	HOHHXHOH	OHOHJHOH
HOHJLHOH		HOHNXHOH	OHONJHOH
HOHJÐHOH	(RBF)R	HOHUXHOH	OHOUJHOH

OHOHSHOH
OHO~~NS~~SHOH
OHOUSHOH

(CGSEFLTZ)R
L(HMNUIKLPRBEF~~Ð~~)
HOHCUSHOH
HOHCHHOH
HOHC~~Ð~~HOH
HOH~~GU~~HOH
HOHGHHOH
HOH~~GD~~HOH
HOHSUHOH
HOHSHHOH
HOHS~~Ð~~HOH
HOHEUHOH
HOHEHHOH
HOHE~~Ð~~HOH
HOH~~FU~~HOH
HOHFHHOH
HOHF~~Ð~~HOH
HOHLUHOH
HOHLHHOH
HOHL~~Ð~~HOH
HOHTUHOH
HOHTHHOH
HOHT~~Ð~~HOH
HOHZUHOH
HOHZHHOH
HOHZ~~Ð~~HOH

full round >full round
(DOQ~~P~~)R L(CGOQ)
HOH~~PQ~~HOH
HOHDOHOH
HOHDCHOH
HOHDQHOH
HOHQOHOH
HOHQCHOH
HOHQQHOH

full > small
(DOQ~~P~~)R L(S)

HOH~~P~~SHOH
HOHDSHOH
HOHOSHOH
HOHQSHOH

(RBP)R L(CGOQ)
HOH~~RO~~HOH
HOHBOHOH
HOH~~PO~~HOH

full > void
(DOQ~~P~~)R L(WVYZXA)

HOHDWHOH
HOH~~PW~~HOH
HOHOWHOH
HOHQWHOH
HOH~~P~~VHOH
HOH~~DV~~HOH

HOHOVHOH
HOHQVHOH
HOHDYHOH
HOH~~P~~YHOH
HOHOYHOH
HOHQYHOH
HOH~~P~~ZHOH
HOHDZHOH
HOHOZHOH
HOHQZHOH
HOH~~PX~~HOH
HOHDXHOH
HOHOXHOH
HOHQXHOH
HOH~~P~~AHOH
HOHDAHOH
HOHOAHOH
HOHQAAHOH

(WVYZXAKR)R L(CGOQ)
HOHWOH
HOH~~VO~~HOH
HOHYOH
HOHZOH
HOH~~XO~~HOH
HOHAAHOH
HOH~~KO~~HOH
HOHROHOH

full>open
(DOQ)R L(TJSZ)

HOH~~DT~~HOH
HOH~~P~~THOH
HOHOTHOH
HOHQTHOH
HOHDJHOH
HOH~~PJ~~HOH
HOHOJHOH
HOH~~QJ~~HOH
HOHDSHOH
HOH~~P~~SHOH
HOH~~OS~~HOH
HOHQSHOH
HOHDZHOH
HOH~~P~~ZHOH
HOHOZHOH
HOHQZHOH

(CSEFLTZG)R L(CGOQ)
HOH~~CO~~HOH
HOH~~SO~~HOH
HOH~~EO~~HOH
HOH~~FO~~HOH
HOHLOHOH
HOHTHOH
HOHZOH
HOH~~GO~~HOH

small>small
(RBP)R L(S)
HOH~~RS~~HOH
HOHBSHOH

HOHPSHOH

small>void
(RBP)R L(WVYZXA)

HOHRWHOHOH
HOHRVHOHOH
HOHRYHOHOH
HOHRZHOHOH
HOH**RX**HOHOH
HOHRAHOHOH
HOHRÆHOHOH

HOHBWHOHOH
HOHBVHOHOH
HOHBYHOHOH
HOHBZHOHOH
HOHBXHOHOH
HOHBAHOHOH
HOHBÆHOHOH

HOH**PW**HOHOH
HOHPVHOHOH
HOHPYHOHOH
HOHPZHOHOH
HOH**PX**HOHOH
HOH**PA**HOHOH
HOHPÆHOHOH

(WVYZXAKR)R L(S)

HOHWSHOHOH
HOHVSHOH
HOHYSHOH
HOHZSHOH
HOHXSHOH
HOH**AS**HOHOH
HOHKSHOH
HOHRSHOH

small>open
(RBP)R L(TJSZ)

HOH**RT**HOHOH
HOHRTHOHOH
HOHRTHOHOH
HOHRJHOHOH
HOHRJHOHOH
HOHRJHOHOH
HOHRSHOH
HOHRSHOH
HOHRZHOHOH
HOHRZHOHOH
HOHRZHOHOH

HOH**BT**HOHOH
HOHBTHOH
HOHBTHOH
HOHBJHOHOH

HOHBJHOHOH
HOHBJHOHOH
HOHBSHOHOH
HOHBSHOHOH
HOHBSHOHOH
HOHBZHOHOH
HOHBZHOHOH
HOHBZHOHOH

HOH**PT**HOHOH
HOHPTHOH
HOHPTHOH
HOHPJHOHOH
HOHPJHOHOH
HOHPJHOHOH
HOHPSHOH
HOH**PS**HOHOH
HOHPSHOH
HOHPZHOHOH
HOHPZHOHOH
HOHPZHOHOH

(CGSEFLTZ)R L(TJSZ)

HOH**CS**HOHOH
HOHGSHOH
HOHSSH OH
HOHESH OH
HOHFSHOH
HOHLSHOH
HOHTSHOH
HOH**ZS**HOHOH

HOHCTHOHOH
HOH**GT**HOHOH
HOHSTHOHOH
HOHETHOH
HOHFTHOHOH
HOH**LT**HOHOH
HOH**TT**HOHOH
HOHZTHOH

HOHCJHOHOH
HOH**GJ**HOHOH
HOH**SJ**HOHOH
HOHEJHOHOH
HOH**FJ**HOHOH
HOHLJHOHOH
HOH**TJ**HOHOH
HOH**ZJ**HOHOH

HOHCZHOHOH
HOHGZHOHOH
HOHSZHOHOH
HOH**EZ**HOHOH
HOHFZHOHOH
HOH**LZ**HOHOH
HOHTZHOHOH
HOHZZHOHOH

void>void
(WVYZXA KR)R
L(WVYZXA)

HOHWWHOH HWWWH
HOHWVHOH HWVWH
HOHWYHOH HWYWH
HOHWZHOH HWZWH
HOHWXHOH HWXWH
HOHWAHOH **HWAWH**
HOHWÆHOH HWÆWH

HOHVWHOH HVVWH
HOHVVHOH HVVWH
HOHVVHOH HVVWH
HOHVZHOH HVZWH
HOHVXHOH HVXWH
HOHVAHOH HVAWH

HOHYWHOH HYWYH
HOHYVHOH HYVYH
HOHYWHOH HYWYH
HOHYZHOH **HYZYH**
HOHYXHOH HYXYH
HOHYAHOH **HYAYH**

HOHZWHOH HZWZH
HOHZVHOH HZVZH
HOHZYHOH **HZYZH**
HOHZZHOH HZZZH

HOHZXHOH HZXZH
HOHZAHOH HZAZH

HOHXWHOH HXWXH
HOHXVHOH HXVXH
HOHXYHOH HXYXH
HOHXZHOH HXZXH
HOHXXHOH HXXXH
HOHXAHOH HXAXH

HOHAWHOH **HAWAH**
HOHAVHOH HAVAH
HOHAYHOH HAYAH
HOHAZHOH HAZAH
HOHAXHOH HAXAH
HOHAAHOH HAAAH

void>open
(WVYZXAKR)R L(TJS)

HOHWTHOH
HOH**WJ**HOH
HOH**WS**HOH

HOH**VT**HOH
HOH**VJ**HOH
HOHVSHOH

HOHYTHOH
HOH**YJ**HOH
HOHYSHOH

HOHZTHOH
HOHZJHOH
HOH**ZS**HOH

HOHXTHOH
HOHXJHOH
HOHXSHOH

HOHATHOH
HOHAJHOH
HOHASHOH

HOH**KT**HOH HKTXH
HOHKJHOH HKJXH
HOHKSHOH HKSXH

HOH**RT**HOH HRTXH
HOHRJHOH HRJXH
HOHRSHOH HRSXH

(CSEFLTZ)R
L(WVYZXA)

HOHCWHOH
HOHCYHOH
HOHCVHOH
HOH**CZ**HOH
HOH**CX**HOH
HOH**CA**HOH

HOHSWHOH HSWSH
HOHSYHOH HSYSH

HOHSVHOH HSVSH
HOHSZHOH HSZSH
HOHSXHOH HSXSH
HOHSAHOH HSASH

HOHEWHOH
HOHEYHOH
HOHEVHOH
HOH**EZ**HOH
HOH**EX**HOH
HOH**EA**HOH

HOH**FW**HOH
HOHFWHOH
HOHFVHOH
HOHFZHOH
HOH**FX**HOH
HOHFAHOH

HOHLWHOH
HOHLYHOH
HOHLVHOH
HOHLZHOH
HOHLXHOH
HOHLAHOH

HOHTWHOH HTWTH
HOHTYHOH HTYTH
HOHTVHOH HTVTH
HOHTZHOH HT**Z**TH
HOHTXHOH HTXTH
HOHTAHOH HTATH

HOHZWHOH HZWZH
HOHZYHOH HZYZH
HOHZVHOH HZVZH
HOHZZHOH HZZZH
HOHZXHOH HZXZH
HOHZAHOH HZAZH

open>open
(CSEFLTZ)R L(TJZ)

HOHCTHOH
HOHCJHOH
HOHCSHOH
HOHCZHOH
HOHSTHOH
HOHSJHOH
HOHSSHOH
HOHSZHOH
HOHETHOH
HOHEJHOH
HOHESHOH
HOHEZHOH
HOHFTHOH
HOHFJHOH
HOHFSHOH
HOHFZHOH
HOHLTHOH
HOHLJHOH
HOHLSHOH
HOHLZHOH

HOHTTHOH
HOHTJHOH
HOHTSHOH
HOHTZHOH
HOHZTHOH
HOHZJHOH
HOHZSHOH
HOHZZHOH

UPPERCASE >
Lowercase

straight>straight

(HMINUJ)R
L(ublijphmnr)

nonHnnono
nonNnnono
nonUnnnono
nonHunono
nonNunono
nonUunono
nonHbnono
nonNbnono
nonUbnono
nonHjnnono
nonNjnnono
nonUjnnono
nonHinono
nonNinono
nonUinono

nonHjnnono
nonNjnnono
nonUjnnono
nonHpnnono
nonNpnnono
nonUpnnono
nonHhnnono
nonNhnnono
nonUhnnono

straight>full round
(HMINUJ)R L(ceodqgð)

nonHonono
nonNonono
nonUonono
nonHdnono
nonNdnono
nonUdnono
nonHgnono
nonNgnono
nonUgnono
nonHðnnono
nonNðnnono
nonUðnnono

(DOQ)R L(ublijphmnr)

nonFunono
nonFbnnono
nonFjnnono
nonFnnono

nonFpnnono
nonDunono
nonDbnnono
nonDjnnono
nonDnnono
nonDpnnono
nonOunono
nonObnnono
nonOjnnono
nonOnnnono
nonOpnnono
nonQunono
nonQbnnono
nonQjnnono
nonQnnono
nonQpnnono

straight>small round
(HMNUIJ)R L(as)

nonHanono
nonNanono
nonUanono
nonHsnono
nonNsnono
nonUsnono

(RBPG)R L(ublijphmnr)

nonRunono
nonRbnono
nonRjnnono

nonRnnono
nonRpnono

nonBunono
nonBbnono
nonBjnono
nonBnnono
nonBpnono

nonPunono
nonPbnono
nonPjnono
nonPnnono
nonPpnono

nonGunono
nonGbnono
nonGjnono
nonGnnono
nonGpnono

straight>void
(HMNUIJ)R L(vwyzx)

nonHvnono
nonNvnono
nonUvnono
nonHwnono
nonNwnono
nonUwnono
nonHynono

nonNynono
nonUynono
nonHznono
nonNznono
nonUznono
nonHxnono
nonNxnono
nonUxnono

(WVYZXAKR)R
L(ublijphmnr)

nonWunono
nonWbnono
nonWjnono
nonWnnono
nonWpnono

nonVunono
nonVbnono
nonVjnono
nonVnnono
nonVpnono

nonYunono
nonYbnono
nonYjnono
nonYnnono
nonYpnono

nonZunono
nonZbnono

nonZjnono
nonZnnono
nonZpnono

nonXunono
nonXbnono
nonXjnono
nonXnnono
nonXpnono

nonAunono
nonAbnono
nonAjnono
nonAnnono
nonApnono

nonKunono
nonKbnono
nonKjnono
nonKnnono
nonKpnono

nonRunono
nonRbnono
nonRjnono
nonRnnono
nonRpnono

straight>open
(HMNUIJ)R L(fts)

nonHfnono

nonNfnono
nonUfnono

nonHtnono
nonNtnono
nonUtnono

nonHsnono
nonNsnono
nonUsnono

(CSEFLTZ)R
L(ublijphmnr)

nonCunono
nonCbnono
nonCjnono
nonCnnono
nonCpnono

nonSunono
nonSbnono
nonSjnono
nonSnnono
nonSpnono

nonEunono
nonEbnono
nonEjnono
nonEnnono
nonEpnono

nonF̄unono
nonF̄b̄nonono
nonF̄jnono
nonF̄nnono
nonF̄pnono

nonLunono
nonL̄b̄nonono
nonL̄jnono
nonL̄nnono
nonL̄pnono

nonTunono
nonT̄b̄nonono
nonT̄jnono
nonT̄nnono
nonT̄pnono

nonZunono
nonZ̄b̄nonono
nonZ̄jnono
nonZ̄nnono
nonZ̄pnono

nonZh̄nonono
nonZh̄nonono
nonZh̄nonono
nonZh̄nonono
nonZh̄nonono

full round >full round
(DOQ)R L (ceodqgđ)

nonDonono
nonD̄dnono
nonD̄gnono
nonD̄đnonono
nonF̄onono
nonF̄dnono
nonF̄gnono
nonF̄đnonono
nonOonono
nonŌdnono
nonŌgnono
nonŌđnonono
nonQonono
nonQ̄dnono
nonQ̄gnono
nonQ̄đnonono

full > small
(DOQ)R L(as)

nonDanono
nonD̄snono
nonF̄anono
nonF̄snono
nonOanono
nonOsnono
nonQanono
nonQ̄snono

(RBP)R L (ceodqg)

nonRonono
nonR̄dnono
nonR̄gnono
nonR̄đnonono

nonBonono
nonB̄dnono
nonB̄gnono
nonB̄đnonono

nonPonono
nonP̄dnono
nonP̄gnono
nonP̄đnonono

full > void
(DOQ)R L(vwyzx)

nonD̄vnono
nonD̄wnono
nonD̄ynono
nonD̄znono
nonD̄xnono

nonF̄vnono
nonF̄wnono
nonF̄ynono
nonF̄znono
nonF̄xnono

nonŌvnono
nonŌwnono

nonŌynono
nonŌznono
nonŌxnono

nonQ̄vnono
nonQ̄wnono
nonQ̄ynono
nonQ̄znono
nonQ̄xnono

(WVYZXAKR)R L
(ceodqgđ)

nonWonono
nonW̄dnono
nonW̄gnono
nonW̄đnonono

nonVonono
nonV̄dnono
nonV̄gnono
nonV̄đnonono

nonYonono
nonȲdnono
nonȲgnono
nonȲđnonono

nonZonono
nonZ̄dnono
nonZ̄gnono
nonZ̄đnonono

nonZonono	nonOfnonono	nonLonono	nonRwnono	nonZanono	
nonZdnono	nonOtnono	nonLdnono	nonRynono	nonZsnono	nonCsnono
nonZgnono	nonOsnono	nonLgnono	nonRznono	nonXanono	nonCanono
nonZðnonono		nonLðnonono	nonRxnono	nonXsnono	nonSsnono
	nonQfnono	nonTonono	nonBvnono	nonAanono	nonSanono
nonXonono	nonQtnono	nonTdnono	nonBwnono	nonAsnonono	nonEsnono
nonXdnonono	nonQsnono	nonTgnono	nonBynono	nonKanono	nonEanono
nonXgnono		nonTðnonono	nonBznono	nonKsnono	nonFsnono
nonXðnonono	(CSEFLTZ)R L		nonBxnono	nonRanono	nonFanono
	(ceodqğð)	nonZonono		nonRsnono	nonLsnono
nonAonono		nonZdnono	nonPvnono	small>open	nonLanono
nonAdnonono	nonConono	nonZgnono	nonPwnono	(RBPG)R L(fts)	nonTsnono
nonAgnono	nonCdnono	nonZðnonono	nonPynono		nonTanono
nonAðnonono	nonCgnono		nonPznono	nonRfnono	nonZsnono
	nonCðnonono	small>small	nonPxnonono	nonRtnono	nonZanono
nonKonono		(RBPG)R L(as)		nonRsnono	void>void
nonKdnono	nonSonono		nonGvnono		(WVYZXAKR)R
nonKgnono	nonSdnono	nonRanono	nonGwnono	nonBfnono	L(vwyzx)
nonKðnonono	nonSgnono	nonRsnono	nonGynono	nonBtnono	
	nonSðnonono	nonBanono	nonGznono	nonBsnono	nonWvnono
nonRonono		nonBsnono	nonGxnono		nonWwnono
nonRdnono	nonEonono	nonPanono		nonPfnono	nonWynono
nonRgnono	nonEdnonono	nonPsnono	(WVYZXAKR)R	nonPtnono	nonWznono
nonRðnonono	nonEgnono	nonGanono	L(as)	nonPsnono	nonWxnono
	nonEðnonono	nonGsnono			
full>open			nonWanono	nonGfnono	nonVvnono
(DOQ)R L(fts)	nonFonono		nonWsnono	nonGtnono	nonVwnono
	nonFdnonono	small>void	nonVanono	nonGsnono	nonVynono
nonDfnono	nonFgnono	(RBPG)R	nonVsnono		nonVznono
nonDtnono	nonFðnonono	L(vwyzx)	nonYanono	(CSEFLTZ)R	nonVxnono
nonDsnono		nonRvnono	nonYsnono	L(as)	

nonYvnono	nonRynono	(CSEFLTZ)R L(vwyzx)	nonTvnono
nonYwnono	nonRznono		nonTwnono
nonYynono	nonRxnono	nonCvnono	nonTynono
nonYznono		nonCwnono	nonTznono
nonYxnono	void>open	nonCynono	nonTxnono
	(WVYZXAKR)R L(fts)	nonCznono	
		nonCxnono	
nonZvnono	nonWfnono		nonZvnono
nonZwnono	nonWtnono	nonSvnono	nonZwnono
nonZynono	nonWsnono	nonSwnono	nonZynono
nonZznono	nonVfnono	nonSynono	nonZznono
nonZxnono	nonVtnono	nonSznono	nonZxnono
	nonVsnono	nonSxnono	
nonXvnono	nonYfnono		open>open
nonXwnono	nonYtnono		(CSEFLTZ)R L(fts)
nonXynono	nonYsnono	nonEvnono	
nonXznono	nonZfnono	nonEwnono	nonCfnono
nonXxnono	nonZtnono	nonEynono	nonCtnono
	nonZsnono	nonEznono	nonCsnono
nonAvnono	nonXfnono	nonExnono	nonSfnono
nonAwnono	nonXtnono		nonStnono
nonAynono	nonXsnono	nonFvnono	nonSsnono
nonAznono	nonAfnono	nonFwnono	nonEfnono
nonAxnono	nonAtnono	nonFynono	nonEtnono
	nonAsnono	nonFznono	nonEsnono
nonKvnono	nonKfnono	nonFxnono	nonFfnono
nonKwnono	nonKtnono		nonF'tnono
nonKynono	nonKsnono	nonLvnono	nonF'snono
nonKznono	nonRfnono	nonLwnono	nonLfnono
nonKxnono	nonRtnono	nonLynono	nonLtnono
	nonRsnono	nonLznono	nonLsnono
nonRvnono		nonLxnono	nonTfnono
nonRwnono			nonTtnono

nonTsnono	nonbÐnono	noniVnono	
nonZfnono	nonðÐnono	nonjVnono	(kvwyzx)R
nonZtnono		nonuVnono	L(HMNUIKLPRBEFÐ)
nonZsnono	straight>small round (udlijgqhmna)R L(S)	nonaVnono	
		nonnYnono	nonkHnono
Lowercase > UPPERCASE	nonnSnono	nonqYnono	nonkUnono
	nonqSnono	noniYnono	nonkÐnono
	noniSnono	nonjYnono	nonvHnono
straight>full round (udlijgqhmna)R L (CGOQ)	nonjSnono	nonuYnono	nonvUnono
	nonuSnono	nonaYnono	nonvÐnono
	nonaSnono		nonwHnono
nonnOnono		nonnZnono	nonwUnono
nonqOnono	(s)R	nonqZnono	nonwÐnono
noniOnono	L(HMNUIKLPRBEF')	noniZnono	nonyHnono
nonjOnono		nonjZnono	nonyUnono
nonuOnono	nonsHnono	nonuZnono	nonyÐnono
nonaOnono	nonsUnono	nonaZnono	nonzHnono
			nonzUnono
			nonzÐnono
(bpo)R	straight>void	nonnXnono	nonxHnono
L(HMNUIKLPRBEFÐ)	(udlijgqhmna)R L(WVYZXA)	nonqXnono	nonxUnono
		noniXnono	nonxÐnono
nonoHnono		nonjXnono	
nonpHnono	nonnWnono	nonuXnono	straight>open
nonbHnono	nonqWnono	nonaXnono	(udlijgqhmna)R L(TJS)
nonðHnono	noniWnono		
nonoUnono	nonjWnono	nonnAnono	nonnTnono
nonpUnono	nonuWnono	nonqAnono	nonqTnono
nonbUnono	nonaWnono	noniAnono	noniTnono
nonðUnono		nonjAnono	nonjTnono
nonoÐnono	nonnVnono	nonuAnono	nonuTnono
nonpÐnono	nonqVnono	nonaAnono	nonaTnono

nonnJnono	nonoOonono	nonoZnono	noncOonono
nonqJnono	nonpOonono	nonpZnono	nonfOonono
noniJnono	nonbOonono	nonbZnono	nontOonono
nonjJnono	full > small	nonðZnono	nonrOonono
nonuJnono	(bpo)R L(S)	nonoXnono	
nonaJnono		nonpXnono	small>small
		nonbXnono	(s)R L(S)
nonnSnono	nonoSnono	nonðXnono	
nonqSnono	nonpSnono	nonoÃnono	nonsSnono
noniSnono	nonbSnono	nonpÃnono	
nonjSnono	(as) R L(CGOQ)	nonbÃnono	small>void
nonuSnono		nonðÃnono	(s)R L(WVYZXA)
nonaSnono	nonaOonono	full>open	
	nonsOonono	(bpoð)R L(TJS)	nonsWnono
(ctfr) R			nonsVnono
L(HMNUIKLPRBEF)	full > void	nonoTnono	nonsYnono
	(bpoð)R L(WVYZXA)	nonpTnono	nonsZnono
noncHnono	(kvwyx)R L(CGOQ)	nonbTnono	nonsXnono
noncUnono		nonðTnono	nonsÃnono
nonfHnono	nonoWnono		
nonfUnono	nonpWnono	nonoJnono	(kvwyx)R L(S)
nontHnono	nonbWnono	nonpJnono	
nontUnono	nonðWnono	nonbJnono	nonkSnono
nonrHnono	nonoVnono	nonðJnono	nonvSnono
nonrUnono	nonpVnono		nonwSnono
	nonbVnono	nonoSnono	nonySnono
	nonðVnono	nonpSnono	nonzSnono
	nonoYnono	nonbSnono	nonxSnono
full round >full round	nonpYnono	nonðSnono	
(bpoe)R L(CGOQ)	nonbYnono		small>open
	nonðYnono	(ctfr) R L(CGOQ)	(s)R L(TJS)

nonsTsnono	nonyYnono	nonzTnono	nonrYnono
nonsJnono	nonzYnono	nonxTnono	
nonsSsnono	nonxYnono		noncZnono
		nonkJnono	nontZnono
(ctfr) R L(S)	nonkZnono	nonvJnono	nonfZnono
	nonvZnono	nonwJnono	nonrZnono
noncSnono	nonwZnono	nonyJnono	
nontSnono	nonyZnono	nonzJnono	noncXnono
nonfSnono	nonzZnono	nonxJnono	nontXnono
nonrSnono	nonxZnono		nonfXnono
		nonkSnono	nonrXnono
void>void	nonkXnono	nonvSnono	
(kvwyzx)R L(WVYZXA)	nonvXnono	nonwSnono	noncAnono
	nonwXnono	nonySnono	nontAnono
nonkWnono	nonyXnono	nonzSnono	nonfAnono
nonvWnono	nonzXnono	nonxSnono	nonrAnono
nonwWnono	nonxXnono		
nonyWnono		(ctfr) R L(WVYZXA)	
nonzWnono	nonkAnono	noncWnono	open>open
nonxWnono	nonvAnono	nontWnono	(ctfr) R L(TJS)
	nonwAnono	nonfWnono	
nonkVnono	nonyAnono	nonrWnono	noncTnono
nonvVnono	nonzAnono		nontTnono
nonwVnono	nonxAnono	noncVnono	nonfTnono
nonyVnono		nontVnono	nonrTnono
nonzVnono	void>open	nonfVnono	
nonxVnono	(kvwyzx)R L(TJS)	nonrVnono	noncJnono
			nontJnono
nonkYnono	nonkTnono	noncYnono	nonfJnono
nonvYnono	nonvTnono	nontYnono	nonrJnon
nonwYnono	nonwTnono	nonfYnono	
	nonyTnono		noncSnono

nontSnono	straight>small round	∘∘71∘∘	∘∘∘∘∘∘
nonfSnono	(1) R L(98)	∘∘21∘∘	∘∘∘6∘∘
nonrSnono			∘∘9∘∘∘
	∘∘19∘∘	straight>open	∘∘96∘∘
	∘∘18∘∘	(1) R L(239)	
Figures			full round >small
	111911	111211	round
straight > straight	111811	111311	(∘9) R L(98)
∘∘11∘∘		111911	
111111	(8356) R L (1)		11∘911
HH11HH		∘∘12∘∘	11∘811
nn11nn	∘∘81∘∘	∘∘13∘∘	119911
	∘∘31∘∘	∘∘19∘∘	119811
straight>full round	∘∘51∘∘		
(1) R L (∘6)	∘∘61∘∘	(654)R L(1)	∘∘∘9∘∘
			∘∘∘8∘∘
∘∘1∘∘∘	118111	116111	∘∘99∘∘
∘∘16∘∘	113111	115111	∘∘98∘∘
	115111	114111	
111∘11	116111		L(98) L (∘6)
111611		∘∘61∘∘	
	straight>void	∘∘51∘∘	119∘11
	(1) R L(4)	∘∘41∘∘	119611
(∘9) R L (1)			118∘11
	111411	full round >full round	118611
∘∘91∘∘	∘∘14∘∘	(∘9) R L (∘6)	
∘∘∘1∘∘			∘∘9∘∘∘
	(72)R L (1)	11∘∘11	∘∘96∘∘
119111		11∘611	∘∘8∘∘∘
11∘111	117111	119∘11	∘∘86∘∘
	112111	119611	
			full > void

(09) R L(4)	000300	116811	
	000900		007900
110411	009200	008900	002900
119411	009300	008800	007800
	009900	003900	002800
000400		003800	
009400	(654)R L (06)	005900	small > open
		005800	(8356) R L(239)
	116011	006900	
(72)R L (06)	116611	006800	118211
	115011		118311
117011	115611		118911
117611	114011	small > void	
112011	114611	(8356) R L(4)	113211
112611			113311
	006000	118411	113911
007000	006600	113411	
007600	005000	115411	115211
002000	005600	116411	115311
002600	004000		115911
	004600	008400	
full > open		003400	116211
(09) R L(239)	small > small	005400	116311
	(8356) R L(98)	006400	116911
110211	118911		008200
110311	118811	(72)R L(98)	008300
110911	113911		008900
119211	113811	117911	
119311	115911	112911	003200
119911	115811	117811	003300
	116911	112811	003900

			fh, fk, fl, fb, fi, fj, ff, ft
005200	007400	open > open	
005300	002400	(654)R L(239)	L4 F'7 6T T7
005900			
	void > open	116211	
006200	(72)R L(239)	116311	
006300		116911	
006900		115211	
	117211	115311	
	117311	115911	
	117911	114211	
	112211	114311	
(654)R L(98)	112311	114911	
	112911		
116911			
116811	007200	006200	
115911	007300	006300	
115811	007900	006900	
114911	002200	005200	
114811	002300	005300	
	002900	005900	
006900		004200	
006800		004300	
005900		004900	
005800	(654)R L(4)		
004900			
004800	116411	collisions U>L & L>U	
	115411		
void > void	114411	fT fY	
(72)R L(4)		Qj Qy Qp Qj F'l tA gT gV	
	006400	gX	
117411	005400		
112411	004400	jj, jy, qj, qg, gg, gp, gy,	

