

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  
noncnonon  
noncjnonon  
nonclonon  
noncpnonon  
nontunono

nontbnono  
nontnonon  
nontjnonon  
nontlonon  
nontpnonon  
nonfunono  
nonfbnono  
nonfnonon  
nonfjnonon  
nonflonon  
nonfpnonon  
nonrunono  
nonrbnono  
nonrnnonon  
nonrjnonon  
nonrlonon  
nonrpnonon  
noneunono  
nonebnono  
nonenonon  
nonejnonon  
nonelonon  
nonepnonon

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

nonocnono  
nonoenono  
nonognono  
nonoðnono  
nonpdonon

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  
nonzgnonon  
nonxgnonon  
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

noncgnonon  
noncđnonon  
nontononon  
nontdnnonon  
nontgnonon  
nontđnonon  
nonfononon  
nonfdnonon  
nonfgnonon  
nonfđnonon  
nonrononon  
nonrdsnnonon  
nonrgnonon  
nonrđnonon  
noneononon  
nonednonon  
nonegnonon  
noneđnonon

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

small>void  
(s)R L(vwyzx)  
nonsvnonon  
nonswnonon  
nonsynonon  
nonsznnonon  
nonsxnnonon

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

small>open  
(s)R L(fts)  
nonsfnnonon  
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  
nonewnononon  
noneynnononon  
noneznnononon  
nonexnononon  
  
open>open  
(ctfre) R L(fts)  
noncfnononon  
nonctnnonon  
noncsnononon  
nontfnnonon  
nonttnnonon  
nontsnnononon  
nonffnnonon  
nonftnnonon  
nonfsnononon  
nonrfnnonon  
nonrtnononon

nonrsnononon  
nonefnnonon  
nonetnononon  
nonesnononon  
  
UPPERCASE  
  
straight>straight  
(HMNUIJ)R  
L(HMNUIKLPRBEFÐ)  
HOHHHHHOH  
HOHHMHOOH  
HOHHNHOOH  
HOHHUHOH  
HOHHIHOOH  
HOHHKHOOH  
HOHHLHOH  
HOHHÐHOH  
  
HOHMHOOH  
HOHMMHOH  
HOHMNHOOH  
HOHMHOOH  
HOHMIHOH  
HOHMKHOH  
HOHMLHOH  
HOHMÐHOH  
  
HOHNHHOOH  
HOHNMHOOH  
HOHNNHOOH

HOHNUHOH		L(HMNUIKLPREBFD)	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(HMNUIKLPREBFD)
HOHUMHOH	HOHNCHOH	HOHBUHOH	HOHWUHOH
HOHUNHOH	HOHUCHOH	HOHBÐHOH	HOHWHHOH
HOHUUHOH		HOHPHHOH	HOHVUHOH
HOHUIHOH	(DOQF)R	HOHPNHOH	HOHVHHOH
HOHUKHOH	L(HMNUIKLPREBFD)	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	OHOHNSHOH	HOHUZHOH	OHOHTHOH
HOHJKHOH	OHOUSHOH	HOHHXHOH	OHOHJHOH
HOHJLHOH		HOHNXHOH	OHOHJHOH
HOHJÐHOH	(RBF)R	HOHUXHOH	OHOUJHOH

OHOHSHOH  
OHO~~NS~~SHOH  
OHOUSHOH  
  
(CGSEFLTZ)R  
L(HMNUIKLPRBEFÐ)  
HOHCUSHOH  
HOHCHHOH  
HOHCÐHOH  
HOH~~GU~~HOH  
HOHGHHOH  
HOH~~GD~~HOH  
HOHSUHOH  
HOHSHHOH  
HOHSÐHOH  
HOHEUHOH  
HOHEHHOH  
HOHEÐHOH  
HOH~~FU~~HOH  
HOHFHHOH  
HOHFÐHOH  
HOHLUHOH  
HOHLHHOH  
HOHLÐHOH  
HOHTUHOH  
HOHTHHOH  
HOHTÐHOH  
HOHZUHOH  
HOHZHHOH  
HOHZÐHOH

full round >full round  
(DOQ~~P~~)R L(CGOQ)  
HOH~~PO~~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~~SHOH  
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)

HOHRWHOH  
HOHRVHOH  
HOHRYHOH  
HOHRZHOH  
HOH**RX**HOH  
HOHRAHOH  
HOHRÆHOH

HOHBWHOH  
HOHBVHOH  
HOHBYHOH  
HOHBZHOH  
HOHBXHOH  
HOHBAHOH  
HOHBÆHOH

HOH**PW**HOH  
HOHPVHOH  
HOHPYHOH  
HOHPZHOH  
HOH**PX**HOH  
HOH**PA**HOH  
HOHPÆHOH

(WVYZXAKR)R L(S)

HOHWSHOH  
HOHVSHOH  
HOHYSHOH  
HOHZSHOH  
HOHXSHOH  
HOH**AS**HOH  
HOHKSHOH  
HOHRSHOH

small>open  
(RBP)R L(TJSZ)

HOH**RT**HOH  
HOHRTHOH  
HOHRTHOH  
HOHRJHOH  
HOHRJHOH  
HOHRJHOH  
HOHRSHOH  
HOHRSHOH  
HOHRZHOH  
HOHRZHOH  
HOHRZHOH

HOH**BT**HOH  
HOHBTHOH  
HOHBTHOH  
HOHBJHOH

HOHBJHOH  
HOHBJHOH  
HOHBSHOH  
HOHBSHOH  
HOHBSHOH  
HOHBZHOH  
HOHBZHOH  
HOHBZHOH

HOH**PT**HOH  
HOHPTHOH  
HOHPTHOH  
HOHPJHOH  
HOHPJHOH  
HOHPJHOH  
HOHPSHOH  
HOH**PS**HOH  
HOHPSHOH  
HOHPZHOH  
HOHPZHOH  
HOHPZHOH

(CGSEFLTZ)R L(TJSZ)

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

HOHCTHOH  
HOH**GT**HOH  
HOHSTHOH  
HOHETHOH  
HOHFTHOH  
HOH**LT**HOH  
HOH**TT**HOH  
HOHZTHOH

HOHCJHOH  
HOH**GJ**HOH  
HOH**SJ**HOH  
HOHEJHOH  
HOH**FJ**HOH  
HOHLJHOH  
HOH**TJ**HOH  
HOH**ZJ**HOH

HOHCZHOH  
HOHGZHOH  
HOHSZHOH  
HOH**EZ**HOH  
HOHFZHOH  
HOH**LZ**HOH  
HOHTZHOH  
HOHZZHOH

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  
HOHSSH OH  
HOHSZHOH  
HOHETHOH  
HOHEJHOH  
HOHESH OH  
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  
nonHjnono  
nonNjnono  
nonUjnono  
nonHinono  
nonNinono  
nonUinono

nonHjnono  
nonNjnono  
nonUjnono  
nonHpnono  
nonNpnono  
nonUpnono  
nonHhnono  
nonNhnono  
nonUhnono

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

nonHonono  
nonNonono  
nonUonono  
nonHdnono  
nonNdnono  
nonUdnono  
nonHgnono  
nonNgnono  
nonUgnono  
nonHðnono  
nonNðnono  
nonUðnono

(DOQ)R L(ublijphmnr)

nonFunono  
nonFbnono  
nonFjnono  
nonFnnono

nonFpnono  
nonDunono  
nonDbnono  
nonDjnono  
nonDnnono  
nonDpnono  
nonOunono  
nonObnono  
nonOjnono  
nonOnnono  
nonOpnono  
nonQunono  
nonQbnono  
nonQjnono  
nonQnnono  
nonQpnono

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

nonHanono  
nonNanono  
nonUanono  
nonHsnono  
nonNsnono  
nonUsnono

(RBPG)R L(ublijphmnr)

nonRunono  
nonRbnono  
nonRjnono

nonRnnono	nonNynono	nonZjnono	nonNfnono
nonRpnono	nonUynono	nonZnnono	nonUfnono
	nonHznono	nonZpnono	
nonBunono	nonNznono		nonHtnono
nonBbnono	nonUznono	nonXunono	nonNtnono
nonBjnono	nonHxnono	nonXbnono	nonUtnono
nonBnnono	nonNxnono	nonXjnono	
nonBpnono	nonUxnono	nonXnnono	nonHsnono
		nonXpnono	nonNsnono
nonPunono	(WVYZXAKR)R		nonUsnono
nonPbnono	L(ublijphmnr)	nonAunono	
nonPjnono		nonAbnono	(CSEFLTZ)R
nonPnnono	nonWunono	nonAjnono	L(ublijphmnr)
nonPpnono	nonWbnono	nonAnnono	
	nonWjnono	nonAprnono	nonCunono
nonGunono	nonWnnono		nonCbnono
nonGbnono	nonWpnono	nonKunono	nonCjnono
nonGjnono		nonKbnono	nonCnnono
nonGnnono	nonVunono	nonKjnono	nonCpnono
nonGpnono	nonVbnono	nonKnnono	
	nonVjnono	nonKpnono	nonSunono
	nonVnnono		nonSbnono
straight>void	nonVpnono	nonRunono	nonSjnono
(HMNUIJ)R L(vwyzx)		nonRbnono	nonSnnono
	nonYunono	nonRjnono	nonSpnono
nonHvnono	nonYbnono	nonRnnono	
nonNvnono	nonYjnono	nonRpnono	nonEunono
nonUvnono	nonYnnono		nonEbnono
nonHwnono	nonYpnono	straight>open	nonEjnono
nonNwnono		(HMNUIJ)R L(fts)	nonEnnono
nonUwnono	nonZunono		nonEpnono
nonHynono	nonZbnono	nonHfnono	

nonFunono		nonRonono	nonOynono
nonFbnono	nonDonono	nonRdnono	nonOznono
nonFjnono	nonDdnono	nonRgnono	nonOxnono
nonFnnono	nonDgnono	nonRðnono	
nonFpnono	nonDðnono		nonQvnono
	nonFonono	nonBonono	nonQwnono
nonLunono	nonFdnono	nonBdnono	nonQynono
nonLbnono	nonFgnono	nonBgnono	nonQznono
nonLjnono	nonFðnono	nonBðnono	nonQxnono
nonLnnono	nonOonono		
nonLpnono	nonOdnono	nonPonono	(WVYZXAKR)R L
	nonOgnono	nonPdnono	(ceodqgð)
nonTunono	nonOðnono	nonPgnono	
nonTbnono	nonQonono	nonPðnono	nonWonono
nonTjnono	nonQdnono		nonWdnono
nonTnnono	nonQgnono	full > void	nonWgnono
nonTpnono	nonQðnono	(DOQ)R L(vwyzx)	nonWðnono
nonZunono	full > small	nonDvnono	nonVonono
nonZbnono	(DOQ)R L(as)	nonDwnono	nonVdnono
nonZjnono		nonDynono	nonVgnono
nonZnnono	nonDanono	nonDznono	nonVðnono
nonZpnono	nonDsnono	nonDxnono	
	nonFanono		nonYonono
nonZhnono	nonFsnono	nonFvnono	nonYdnono
nonZhnono	nonOanono	nonFwnono	nonYgnono
nonZhnono	nonOsnono	nonFynono	nonYðnono
nonZhnono	nonQanono	nonFznono	
nonZhnono	nonQsnono	nonFxnono	nonZonono
			nonZdnono
full round >full round	(RBP)R L (ceodqg)	nonOvnono	nonZgnono
(DOQ)R L (ceodqgð)		nonOwnono	nonZðnono

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	nonAsnono	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  
nonYwnono  
nonYynono  
nonYznono  
nonYxnono  
  
nonZvnono  
nonZwnono  
nonZynono  
nonZznono  
nonZxnono  
  
nonXvnono  
nonXwnono  
nonXynono  
nonXznono  
nonXxnono  
  
nonAvnono  
nonAwnono  
nonAynono  
nonAznono  
nonAxnono  
  
nonKvnono  
nonKwnono  
nonKynono  
nonKznono  
nonKxnono  
  
nonRvnono  
nonRwnono

nonRynono  
nonRznono  
nonRxnono  
  
void>open  
(WVYZXAKR)R L(fts)  
  
nonWfnono  
nonWtnono  
nonWsnono  
nonVfnono  
nonVtnono  
nonVsnono  
nonYfnono  
nonYtnono  
nonYsnono  
nonZfnono  
nonZtnono  
nonZsnono  
nonXfnono  
nonXtnono  
nonXsnono  
nonAfnono  
nonAtnono  
nonAsnono  
nonKfnono  
nonKtnono  
nonKsnono  
nonRfnono  
nonRtnono  
nonRsnono

(CSEFLTZ)R L(vwyzx)  
  
nonCvnono  
nonCwnono  
nonCynono  
nonCznono  
nonCxnono  
  
nonSvnono  
nonSwnono  
nonSynono  
nonSznono  
nonSxnono  
  
nonEvnono  
nonEwnono  
nonEynono  
nonEznono  
nonExnono  
  
nonFvnono  
nonFwnono  
nonFynono  
nonFznono  
nonFxnono  
  
nonLvnono  
nonLwnono  
nonLynono  
nonLznono  
nonLxnono  
  
nonTvnono  
nonTwnono  
nonTynono  
nonTznono  
nonTxnono  
  
nonZvnono  
nonZwnono  
nonZynono  
nonZznono  
nonZxnono  
  
open>open  
(CSEFLTZ)R L(fts)  
  
nonCfnono  
nonCtnono  
nonCsnono  
nonSfnono  
nonStnono  
nonSsnono  
nonEfnono  
nonEtnono  
nonEsnono  
nonFfnono  
nonFtnono  
nonF'snono  
nonLfnono  
nonLtnono  
nonLsnono  
nonTfnono  
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 (udlijgqhmna)R L(TJS)
nonbHnono	nonqWnono	nonaXnono	
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	(kvwyzx)R L(CGOQ)	nonbTnono	nonsXnono
noncUnono		nonðTnono	nonsÃnono
nonfHnono	nonoWnono		
nonfUnono	nonpWnono	nonoJnono	(kvwyzx)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	(ctfr) R L(CGOQ)	small>open
	nonðYnono		(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			
006200	void > open	116211	
006300	(72)R L(239)	116311	
006900		116911	
(654)R L(98)	117211	115211	
	117311	115311	
	117911	115911	
	112211	114211	
	112311	114311	
	112911	114911	
116911			
116811	007200	006200	
115911	007300	006300	
115811	007900	006900	
114911	002200	005200	
114811	002300	005300	
	002900	005900	
		004200	
006900		004300	
006800		004900	
005900			
005800	(654)R L(4)		
004900			
004800			
void > void	116411	collisions U>L & L>U	
(72)R L(4)	115411		
	114411	fT fY	
		Qj Qy Qp Qj F'l tA gT gV	
	006400	gX	
117411	005400		
112411	004400	jj, jy, qj, qg, gg, gp, gy,	

