

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  
nonrdnnonon  
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  
nonesnnonon

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  
HOHHMHOH  
HOHHNHOH  
HOHHUHOH  
HOHHIHOH  
HOHHKHOH  
HOHHLHOH  
HOHHÐHOH  
  
HOHMHHOH  
HOHMMHOH  
HOHMNHOH  
HOHMUHOH  
HOHMIHOH  
HOHMKHOH  
HOHMLHOH  
HOHMÐHOH  
  
HOHNHHHOH  
HOHNMHHOH  
HOHNNNHOH

HOHNÜHOH		L(HMNUIKLP RBEFÐ)	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(HMNUIKLP RBEF)
HOHUMHOH	HOHNCHOH	HOHBUHOH	HOHWUHOH
HOHUNHOH	HOHUCHOH	HOHBÐHOH	HOHWHHOH
HOHUUHOH		HOHPHHOH	HOHVUHOH
HOHUIHOH	(DOQÞ)R	HOHPNHOH	HOHVHHOH
HOHUKHOH	L(HMNUIKLP RBEFÐ)	HOHPUHOH	HOHYUHOH
HOHULHOH	HOHOUHOH	HOHPÐHOH	HOHYHHOH
HOHUÐHOH	HOHQUHOH		HOHZUHOH
	HOHDUHOH		HOHZHHOH
HOHIHHOH	HOHÞUHOH	straight>void	HOHXUHOH
HOHIMHOH	HOHOHHOH	(HMNUIJ)R L(WVYZXA)	HOHXHHOH
HOHINHOH	HOHQHHOH	HOHHVHOH	HOHAUHOH
HOHIUHOH	HOHDHHOH	HOHNVHOH	HOHAHHOH
HOHIIHOH	HOHÞHHOH	HOHUVHOH	HOHKUHOH
HOHIKHOH	HOHOÐHOH	HOHHWHOH	HOHKHHOH
HOHILHOH	HOHQÐHOH	HOHNWHOH	HOHRUHOH
HOHIÐHOH	HOHDÐHOH	HOHUWHOH	HOHRHHOH
	HOHÞÐHOH	HOHHYHOH	
HOHJHHOH		HOHNYHOH	straight>open
HOHJMHOH	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	OHO NJHOH
HOHJÐHOH	(RBP)R	HOHUXHOH	OHO UJHOH

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~~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)

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)

HOHWSHOH  
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  
HOHRSHOH  
HOHRZHOHOH  
HOHRZHOHOH  
HOHRZHOHOH

HOH**BT**HOHOH  
HOHBTHOH  
HOHBTHOH  
HOHBTHOH

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  
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  
nonHbnnono  
nonNbnnono  
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  
nonRbnnono  
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

nonF̣unono  
nonF̣ḅnonono  
nonF̣jnono  
nonF̣nnono  
nonF̣pnono

nonLunono  
nonḶḅnonono  
nonḶjnono  
nonḶnnono  
nonḶpnono

nonTunono  
nonṬḅnonono  
nonṬjnono  
nonṬnnono  
nonṬpnono

nonZunono  
nonẒḅnonono  
nonẒjnono  
nonẒnnono  
nonẒpnono

nonZḥnonono  
nonZḥnonono  
nonZḥnonono  
nonZḥnonono  
nonZḥnonono

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

nonḌonono  
nonḌḍnonono  
nonḌgnono  
nonḌđ̣nonono  
nonF̣onono  
nonF̣ḍnonono  
nonF̣gnono  
nonF̣đ̣nonono  
nonOonono  
nonỌḍnonono  
nonỌgnono  
nonỌđ̣nonono  
nonQonono  
nonQ̣ḍnonono  
nonQ̣gnono  
nonQ̣đ̣nonono

full > small  
(DOQ)R L(as)

nonḌanono  
nonḌṣnonono  
nonF̣anono  
nonF̣ṣnonono  
nonOanono  
nonỌṣnonono  
nonQanono  
nonQ̣ṣnonono

(RBP)R L (ceodqg)

nonRonono  
nonṚḍnonono  
nonṚgnono  
nonṚđ̣nonono

nonḄonono  
nonḄḍnonono  
nonḄgnono  
nonḄđ̣nonono

nonPonono  
nonP̣ḍnonono  
nonP̣gnono  
nonP̣đ̣nonono

full > void  
(DOQ)R L(vwyzx)

nonḌṿnonono  
nonḌẉnonono  
nonḌynono  
nonḌznono  
nonḌxnono

nonF̣ṿnonono  
nonF̣ẉnonono  
nonF̣ynono  
nonF̣ẓnonono  
nonF̣x̣nonono

nonỌṿnonono  
nonỌwnono

nonOynono  
nonỌẓnonono  
nonỌxnono

nonQṿnonono  
nonQ̣ẉnonono  
nonQ̣ynono  
nonQ̣znono  
nonQ̣xnono

(WVYZXAKR)R L  
(ceodqgđ)

nonẈonono  
nonẈḍnonono  
nonẈgnono  
nonẈđ̣nonono

nonṾonono  
nonṾḍnonono  
nonṾgnono  
nonṾđ̣nonono

nonYonono  
nonỴḍnonono  
nonỴgnono  
nonỴđ̣nonono

nonZonono  
nonẒḍnonono  
nonẒgnono  
nonẒđ̣nonono

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	nonĀsnono	nonEsnono
nonXdnonono	nonQsnono	nonTgnono	nonBynono	nonKanono	nonEanono
nonXgnono		nonTðnonono	nonBznono	nonKsnono	nonFsnono
nonXðnonono	(CSEFLTZ)R L		nonBxnono	nonRanono	nonFanono
	(ceodqgð)	nonZonono		nonRsnono	nonLsnono
nonAonono		nonZdnono	nonPvnono	small>open	nonLanono
nonAdnonono	nonConono	nonZgnono	nonPwnono	(RBPG)R L(fts)	nonTsnono
nonĀgnono	nonCdnono	nonZðnonono	nonPynono		nonTanono
nonĀðnonono	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	nonPtnonono	nonWznono
nonRðnonono	nonEgnono	nonGanono	L(as)	nonPsnono	nonWxnono
	nonEðnonono	nonGsnono			
full>open			nonWanono	nonGfnono	nonVvnono
(DOQ)R L(fts)	nonFonono	small>void	nonWsnono	nonGtnono	nonVwnono
	nonFdnonono	(RBPG)R	nonVanono	nonGsnono	nonVynono
nonDfnono	nonFgnono	L(vwyzx)	nonVsnono		nonVznono
nonDtnonono	nonFðnonono	nonRvnono	nonYanono	(CSEFLTZ)R	nonVxnono
nonDsnono			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	nonaVnono	
	(udlijgqhmna)R L(S)		
Lowercase >		nonnYnono	nonkHnono
UPPERCASE	nonnSnono	nonqYnono	nonkUnono
	nonqSnono	noniYnono	nonkÐnono
	noniSnono	nonjYnono	nonvHnono
straight>full round	nonjSnono	nonuYnono	nonvUnono
(udlijgqhmna)R L	nonuSnono	nonaYnono	nonvÐnono
(CGOQ)	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
(bpo)R	straight>void	nonnXnono	nonzÐnono
L(HMNUIKLPRBEFÐ)	(udlijgqhmna)R	nonqXnono	nonxHnono
	L(WVYZXA)	noniXnono	nonxUnono
nonoHnono		nonjXnono	nonxÐnono
nonpHnono	nonnWnono	nonuXnono	
nonbHnono	nonqWnono	nonaXnono	straight>open
nonðHnono	noniWnono		(udlijgqhmna)R L(TJS)
nonoUnono	nonjWnono	nonnAnono	
nonpUnono	nonuWnono	nonqAnono	nonnTnono
nonbUnono	nonaWnono	noniAnono	nonqTnono
nonðUnono		nonjAnono	noniTnono
nonoÐnono	nonnVnono	nonuAnono	nonjTnono
nonpÐnono	nonqVnono	nonaAnono	nonuTnono
			nonaTnono

nonnJnono  
nonqJnono  
noniJnono  
nonjJnono  
nonuJnono  
nonaJnono

nonnSnono  
nonqSnono  
noniSnono  
nonjSnono  
nonuSnono  
nonaSnono

(ctfr) R  
L(HMNUIKLPRBEF)

noncHnono  
noncUnono  
nonfHnono  
nonfUnono  
nontHnono  
nontUnono  
nonrHnono  
nonrUnono

full round >full round  
(bpoe)R L(CGOQ)

nonoOonono  
nonpOonono  
nonbOonono

full > small  
(bpo)R L(S)

nonoSnono  
nonpSnono  
nonbSnono

(as) R L(CGOQ)

nonaOnono  
nonsOnono

full > void  
(bpoð)R L(WVYZXA)  
(kvwyxz)R L(CGOQ)

nonoWnono  
nonpWnono  
nonbWnono  
nonðWnono  
nonoVnono  
nonpVnono  
nonbVnono  
nonðVnono  
nonoYnono  
nonpYnono  
nonbYnono  
nonðYnono

nonoZnono  
nonpZnono  
nonbZnono  
nonðZnono  
nonoXnono  
nonpXnono  
nonbXnono  
nonðXnono  
nonoAnono  
nonpAnono  
nonbAnono  
nonðAnono

full>open  
(bpoð)R L(TJS)

nonoTnono  
nonpTnono  
nonbTnono  
nonðTnono

nonoJnono  
nonpJnono  
nonbJnono  
nonðJnono

nonoSnono  
nonpSnono  
nonbSnono  
nonðSnono

(ctfr) R L(CGOQ)

noncOnono  
nonfOnono  
nontOnono  
nonrOnono

small>small  
(s)R L(S)

nonsSnono

small>void  
(s)R L(WVYZXA)

nonsWnono  
nonsVnono  
nonsYnono  
nonsZnono  
nonsXnono  
nonsAnono

(kvwyxz)R L(S)

nonkSnono  
nonvSnono  
nonwSnono  
nonySnono  
nonzSnono  
nonxSnono

small>open  
(s)R L(TJS)

nonsTsnono  
nonsJnono  
nonsSsnono

(ctfr) R L(S)

noncSnono  
nontSnono  
nonfSnono  
nonrSnono

void>void  
(kvwyzx)R L(WVYZXA)

nonkWnono  
nonvWnono  
nonwWnono  
nonyWnono  
nonzWnono  
nonxWnono

nonkVnono  
nonvVnono  
nonwVnono  
nonyVnono  
nonzVnono  
nonxVnono

nonkYnono  
nonvYnono  
nonwYnono

nonyYnono  
nonzYnono  
nonxYnono

nonkZnono  
nonvZnono  
nonwZnono  
nonyZnono  
nonzZnono  
nonxZnono

nonkXnono  
nonvXnono  
nonwXnono  
nonyXnono  
nonzXnono  
nonxXnono

nonkAnono  
nonvAnono  
nonwAnono  
nonyAnono  
nonzAnono  
nonxAnono

void>open  
(kvwyzx)R L(TJS)

nonkTnono  
nonvTnono  
nonwTnono  
nonyTnono

nonzTnono  
nonxTnono

nonkJnono  
nonvJnono  
nonwJnono  
nonyJnono  
nonzJnono  
nonxJnono

nonkSnono  
nonvSnono  
nonwSnono  
nonySnono  
nonzSnono  
nonxSnono

(ctfr) R L(WVYZXA)

noncWnono  
nontWnono  
nonfWnono  
nonrWnono

noncVnono  
nontVnono  
nonfVnono  
nonrVnono

noncYnono  
nontYnono  
nonfYnono

nonrYnono

noncZnono  
nontZnono  
nonfZnono  
nonrZnono

noncXnono  
nontXnono  
nonfXnono  
nonrXnono

noncAnono  
nontAnono  
nonfAnono  
nonrAnono

open>open  
(ctfr) R L(TJS)

noncTnono  
nontTnono  
nonfTnono  
nonrTnono

noncJnono  
nontJnono  
nonfJnono  
nonrJnon

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			
110311	118911		008200
110911	118811	(72)R L(98)	008300
119211	113911		008900
119311	113811	117911	
119911	115911	112911	003200
	115811	117811	003300
000200	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,	

