

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
nonclonon
noncpnonon
nontunono

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

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

nonocnono
nonoenono
nonognono
nonoðnono
nonpdonon

nonoononon

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
nonrdnonon
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)
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
noneynnononon
noneznnononon
nonexnononon

open>open
(ctfre) R L(fts)
noncfnononon
nonctnnonon
noncsnononon
nontfnnonon
nonttnnonon
nontsnnononon
nonffnnonon
nonftnnonon
nonfsnnonon
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(HMNUIKLPŔBEFĐ) | 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(HMNUIKLPŔBEF) |
| HOHUMHOH | HOHNCHOH | HOHBUHOH | HOHWUHOH |
| HOHUNHOH | HOHUCHOH | HOHBÐHOH | HOHWHHOH |
| HOHUUHOH | | HOHPHHOH | HOHVUHOH |
| HOHUIHOH | (DOQŔ)R | HOHPNHOH | HOHVHHOH |
| HOHUKHOH | L(HMNUIKLPŔBEFĐ) | HOHPUHOH | HOHYUHOH |
| HOHULHOH | HOHOUHOH | HOHPÐHOH | HOHYHHOH |
| HOHUÐHOH | HOHQUHOH | | HOHZUHOH |
| | HOHDUHOH | | HOHZHHOH |
| HOHIHHOH | HOHŔUHOH | straight>void | HOHXUHOH |
| HOHIMHOH | HOHOHHOH | (HMNUIJ)R L(WVYZXA) | HOHXHHOH |
| HOHINHOH | HOHQHHOH | HOHHVHOH | HOHAUHOH |
| HOHIUHOH | HOHDHHOH | HOHNVHOH | HOHAHHOH |
| HOHIIHOH | HOHŔHHOH | HOHUVHOH | HOHKUHOH |
| HOHIKHOH | HOHOÐHOH | HOHHWHOH | HOHKHHOH |
| HOHILHOH | HOHQÐHOH | HOHNWHOH | HOHRUHOH |
| HOHIÐHOH | HOHDÐHOH | HOHUWHOH | HOHRHHOH |
| | HOHŔÐHOH | 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 | OHO NJHOH |
| HOHJÐHOH | (ŔBŔ)R | HOHUXHOH | OHO UJHOH |

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)

HOHRWHOHOH
HOHRVWHOHOH
HOHRYWHOHOH
HOHRZWHOHOH
HOH**RX**WHOHOH
HOHRAWHOHOH
HOHRAÆWHOHOH

HOHBWHOHOH
HOHBVWHOHOH
HOHBYWHOHOH
HOHBZWHOHOH
HOHBXWHOHOH
HOHBAWHOHOH
HOHBÆWHOHOH

HOH**PW**WHOHOH
HOHPVWHOHOH
HOHPYWHOHOH
HOHPZWHOHOH
HOH**PX**WHOHOH
HOH**PA**WHOHOH
HOHPÆWHOHOH

(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)

HOHWVHOH HWWVWH
HOHWYHOH HWYVWH
HOHWZHOH HWZVWH
HOHWXHOH HWXVWH
HOHWAHOH **HWAWH**
HOHWAÆHOH HWÆVWH

HOHVWHOH HVVWH
HOHVYHOH HVYVH
HOHVZHOH HVZVH
HOHVXHOH HVXVH
HOHVAHOH HVAVH

HOHYWHOH HYWYH
HOHYVHOH HYVYH
HOHYWHOH H**YZYH**
HOHYXHOH HYXYH
HOHYAHOH HY**AYH**

HOHZWHOH HZWZH
HOHZVHOH HZVZH
HOHZYHOH H**ZYZH**
HOHZZHOH HZZZH

HOHZXHOH HZXZH
HOHZAHOH HZAZH

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

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

void>open
(WVYZXAKR)R L(TJS)

HOHWTHOH
HOH**WJH**HOH
HOH**WSH**HOH

HOH**VT**HOH
HOH**VJH**HOH
HOHVSHOH

HOHYTHOH
HOH**YJH**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

HOHFWHOH
HOHFWHOH
HOH**FW**HOH
HOH**FX**HOH

HOHLWHOH
HOHLYHOH
HOHLVHOH
HOHLZHOH
HOHLXHOH
HOHLAHOH

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

| | | | |
|-------------------|-------------------|-----------------------|-----------------------|
| HOHZWHOH HZWZH | HOHTTHOH | nonHjnono | nonFpnono |
| HOHZYHOH HZYZH | HOHTJHOH | nonNjnono | nonDunono |
| HOHZVHOH HZVZH | HOHTSHOH | nonUjnono | nonDbnono |
| HOHZZHOH HZZZH | HOHTZHOH | nonHpnono | nonDjnono |
| HOHZXHOH HZXZH | HOHZTHOH | nonNpnono | nonDnnono |
| HOHZAHOH HZAZH | HOHZJHOH | nonUpnono | nonDpnono |
| | HOHZSHOH | nonHhnono | nonOunono |
| | HOHZZHOH | nonNhnono | nonObnono |
| | | nonUhnono | nonOjnono |
| open>open | UPPERCASE > | | nonOnnono |
| (CSEFLTZ)R L(TJZ) | Lowercase | straight>full round | nonOpnono |
| | | (HMINUJ)R L (ceodqgð) | nonQunono |
| HOHCTHOH | straight>straight | | nonQbnono |
| HOHCJHOH | | nonHonono | nonQjnono |
| HOHCSHOH | (HMINUJ)R | nonNonono | nonQnnono |
| HOHCZHOH | L(ublijphmnr) | nonUonono | nonQpnono |
| HOHSTHOH | | nonHdnono | |
| HOHSJHOH | nonHnnono | nonNdnono | straight>small round |
| HOHSSHOH | nonNnnono | nonUdnono | (HMNUIJ)R L(as) |
| HOHSZHOH | nonUnnono | nonHgnono | nonHanono |
| HOHETHOH | nonHunono | nonNgnono | nonNanono |
| HOHEJHOH | nonNunono | nonUgnono | nonUanono |
| HOHESHOH | nonUunono | nonHðnono | nonHsnono |
| HOHEZHOH | nonHbnono | nonNðnono | nonNsnono |
| HOHFTHOH | nonNbnono | nonUðnono | nonUsnono |
| HOHFJHOH | nonUbnono | | |
| HOHFSHOH | nonHjnono | (DOQ)R L(ublijphmnr) | (RBPG)R L(ublijphmnr) |
| HOHFZHOH | nonNjnono | | |
| HOHLTHOH | nonUjnono | nonFunono | nonRunono |
| HOHLJHOH | nonHinono | nonFbnono | nonRbnono |
| HOHLSHOH | nonNinono | nonFjnono | nonRjnono |
| HOHLZHOH | nonUinono | nonFnnono | |

| | | | |
|--------------------|---------------|------------------|---------------|
| 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 | nonAprono | 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 | 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
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

nonF'tnono
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 | |
| | | | nonkHnono |
| Lowercase > UPPERCASE | nonnSnono | nonnYnono | nonkUnono |
| | nonqSnono | nonqYnono | nonkÐnono |
| | noniSnono | noniYnono | nonvHnono |
| straight>full round (udlijgqhmna)R L (CGOQ) | nonjSnono | nonjYnono | nonvUnono |
| | nonuSnono | nonuYnono | nonvÐnono |
| nonnOnono | nonaSnono | nonaYnono | nonwHnono |
| nonqOnono | | | nonwUnono |
| noniOnono | (s)R | nonnZnono | nonwÐnono |
| nonjOnono | L(HMNUIKLPRBEF') | nonqZnono | nonyHnono |
| nonuOnono | | noniZnono | nonyUnono |
| nonaOnono | nonsHnono | nonjZnono | nonyÐnono |
| | nonsUnono | nonuZnono | nonzHnono |
| | | nonaZnono | 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 | (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 | | 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, | |

