```
%!PS-Adobe-1.0
%%Title: igosup
%%CreationDate: Tue Oct 11 17:01:27 1994
%%BoundingBox: 0 0 400 400
%%Pages: 1
%%DocumentFonts: Times-Roman Helvetica-Bold
%%EndComments
/atkDict 8 dict def
atkDict begin
gsave
/pagesave 0 def
/beginpage {/pagesave save store} def
/endpage {showpage pagesave restore} def /tF0 /Times-Roman findfont def
/godict 55 dict def
/tF1 /Helvetica-Bold findfont def
/tL {/tY exch store} bind def
/tY 0 def
godict begin
% basic parameters
/Black {0 0 0 setrgbcolor} def
/White {1 1 1 setrgbcolor} def
/BoardColor {1 1 1 setrgbcolor} def
%/BoardColor {.94 .90 .55 setrgbcolor} def % for color printer (burlywoodl)
/linethick .04 def
                       % linethickness
%derived parameters
/bscolor /Black load def
                                                  % black stone color
/bsnotecolor /White load def
                                                 % color of notes on black stones
/bsradius .1 def
                                                  % black stone radius
/wscolor /White load def
                                                 % white stone color
/wsedgecolor /Black load def
/wsnotecolor /Black load def
                                        % color of whiteestone edge
                                          % color of notes on white stones
/wsthick linethick 5 mul 4 div def
                                                  % white stone edge thickness
/wsradius bsradius wsthick 2 div sub def
                                                 %white stone radius
/linecolor /Black load def
                                                  % color of lines on board
% /linethick defined above
/edgethick linethick 1.5 mul def
                                                 % thickness of edge lines
/hoshicolor /linecolor load def
                                                  % color of hoshi dot
/hoshiradius linethick 3 mul def
                                                  % radius of hoshi dot
/boardnotecolor /Black load def
/notethick linethick 2 mul def
                                                  % thickness of lines in symbols
/noteaura .15 def
                                                  % erase lines closer to letters than this
/symradius wsradius .7 mul def
                                        % radius of symbols
/letht .53 def
                                                 % height of letters and digits
/notew .84 def
                                                  % width of multidigit numbers
/corner 2 sqrt 2 div symradius mul def % x&y coords of end of diagonal cross
/trix 3 sqrt 2 div symradius mul def
                                                 % x for triangle bottom corners
                        % start with string on stack. leave llx urx ury lly
/strbounds {
        newpath 0 0 moveto
        false charpath flattenpath pathbbox % llx lly urx ury
        3 -1 \text{ roll}
                                                  % llx urx ury lly
        grestore
} def
% define fonts for notes in stones
        /Helvetica-Bold findfont setfont
% onedigitfont is scaled so height of (8) is letht
        (8) strbounds sub /dy exch def pop pop
 /onedigitfont
        currentfont letht dy div dup neg [ 1 0 0 1 0 0 ] scale
        makefont def
% twodigitfont is same height but scaled to fit (88) in notew width
```

```
(88) strbounds pop pop exch sub /dx exch def
/twodigitfont onedigitfont [ notew dx div 0 0 1 0 0 ] makefont def
(188) strbounds pop pop exch sub /dx exch def
/threedigitfont onedigitfont [ notew dx div 0 0 1 0 0 ] makefont def
( % ) {
                          % draw a diagonal cross
        moveto corner neg dup rmoveto
        corner 2 mul
        dup dup rlineto
        dup neg 0 rmoveto
        dup neg rlineto
} def
                          % draw an orthogonal cross
(+) {
        moveto symradius neg 0 rmoveto symradius 2 mul 0 rlineto
        symradius neg dup rmoveto 0 symradius 2 mul rlineto
} def
(#) {
                         % draw a square
        moveto corner dup rmoveto
        corner 2 mul
        dup neg 0 rlineto dup 0 exch neg rlineto
        0 rlineto closepath
} def
(@) {
                          % draw a circle
        symradius notethick 2 div sub 0 360 arc
} def
( ^ ) {
                         % draw a triangle
        moveto 0 symradius neg rmoveto
trix symradius 1.5 mul rlineto
trix -2 mul 0 rlineto
        closepath
} def
(-) {
                         % draw a dash
        moveto symradius neg 0 rmoveto
        symradius 2 mul 0 rlineto
} def
/dxdy {
                 \mbox{\ensuremath{\mbox{\$}}} compute \mbox{\ensuremath{\mbox{d}} x} and \mbox{\ensuremath{\mbox{d}} y} to center the string on stack
        strbounds
        add 2 div neg /dy exch def
        add 2 div neg /dx exch def
/showcentered { % shows its arg string centered at current point
        dup dxdy dx dy rmoveto show
% stack : n
                          % results: set sproc, dx and dy; choose and set font
        /n exch def
        godict n known {
                 % special symbol
                 /proc godict n get def
        } {
                 % text : get offsets from pathbbox
                 /proc 0 def
                 [ onedigitfont onedigitfont twodigitfont threedigitfont ]
                          n length {get} stopped {onedigitfont} if setfont
        } ifelse
} def
                 % draw annotation stack: x y note
/note {
                 % notes are: integer letter @ + % \# ^
                 % color must have been set
```

```
/n exch def
       newpath
                       % at center of spot
        /proc load 0 ne {
               % special symbol
               0 setlinecap
               notethick setlinewidth
                               % perform function for special symbol
               proc stroke
        } {
               % text
                moveto dx dy rmoveto
               n show
        } ifelse
} def
/wst {
               % white stone
                                stack: x y
        2 сору
       wscolor
       newpath wsradius 0 360 arc fill
       wsthick setlinewidth
       wsedgecolor
       newpath wsradius 0 360 arc stroke
} def
/bst {
                % black stone
                                stack: x y
       bscolor
       newpath bsradius 0 360 arc fill
} def
/braid {
   2 сору
   moveto
   1 1 rlineto
   stroke
   newpath
   moveto
   0 1 rmoveto
   .4 -.4 rlineto .2 -.2 rmoveto .4 -.4 rlineto
}def
/vbraid {
    2 copy
   moveto
   1 1 rlineto
   stroke
   newpath
   moveto
   1 0 rmoveto
   -.4 .4 rlineto -.2 .2 rmoveto -.4 .4 rlineto
   stroke
}def
/magbraid {
   2 сору
   moveto
   1 1 rlineto
   stroke
   newpath
   2 сору
   moveto
   0 1 rmoveto
    .3375 -.3375 rlineto .25 -.25 rmoveto .4125 -.4125 rlineto
   stroke
  newpath
   2 сору
   moveto
   0 .15 rmoveto
   1 1 rlineto
```

```
stroke
   newpath
   moveto
   0 1.15 rmoveto
   .4125 -.4125 rlineto .25 -.25 rmoveto .3375 -.3375 rlineto
/vmagbraid {
    2 сору
   moveto
   1 1 rlineto
   stroke
   newpath
   2 сору
   moveto
   1 0 rmoveto
   -.35 .35 rlineto -.30 .30 rmoveto -.35 .35 rlineto
   stroke
  newpath
   2 сору
   moveto
    .15 0 rmoveto
   1 1 rlineto
   stroke
   newpath
   moveto
   1.175 0 rmoveto
   -.35 .35 rlineto -.30 .30 rmoveto -.35 .35 rlineto
}def
/ibraid {
    2 copy
   moveto
   .4 .4 rlineto .2 .2 rmoveto .4 .4 rlineto
   newpath
   moveto
   0 1 rmoveto
   1 -1 rlineto
   stroke
}def
/magibraid {
    2 сору
   moveto
   .35 .35 rlineto .30 .30 rmoveto .35 .35 rlineto
   stroke
   newpath
   2 сору
   moveto
   0 1 rmoveto
   1 -1 rlineto
   stroke
   newpath
   2 сору
   moveto
   0 .15 rmoveto
    .35 .35 rlineto .30 .30 rmoveto .35 .35 rlineto
   stroke
   newpath
   moveto
   0 1.175 rmoveto
   1 -1 rlineto
   stroke
}def
```

~/DaChecked/knots/braids/from_BraidCalc/

```
/vibraid {
    2 copy
   moveto
    .4 .4 rlineto .2 .2 rmoveto .4 .4 rlineto
   newpath
   moveto
   1 0 rmoveto
   -1 1 rlineto
   stroke
/vmagibraid {
    2 сору
   moveto
    .35 .35 rlineto .30 .30 rmoveto .35 .35 rlineto
   stroke
   newpath
    2 сору
   moveto
   1 0 rmoveto
    -1 1 rlineto
   stroke
   newpath
    2 сору
   moveto
   .15 0 rmoveto
    .35 .35 rlineto .30 .30 rmoveto .35 .35 rlineto
   stroke
   newpath
   moveto
   1.175 0 rmoveto
   -1 1 rlineto
   stroke
}def
/bbraid {
    2 сору
   moveto
    .33333 0 rlineto
   .166667 .33333 rlineto
-.166667 .33333 rlineto
   -.166667 0 rlineto
   -.166667 .33333 rlineto
    .166667 .33333 rlineto
    .6666667 0 rlineto
    .166667 -.33333 rlineto
   stroke
   newpath
   moveto
   0.5 .33333 rmoveto
    .33333 0 rlineto
    .166667 -.33333 rlineto
   stroke
}def
/magnot{
    2 сору
   moveto
    .4 0 rlineto
   .2 .15 rlineto
    .4 0 rlineto
   stroke
   newpath
   moveto
   0 .15 rmoveto
    .4 0 rlineto
    .2 -.15 rmoveto
```

```
.4 0 rlineto
    stroke
}def
/maginot{
    2 copy
   moveto
   .4 0 rlineto
    .2 .15 rmoveto
    .4 0 rlineto
   stroke
   newpath
   moveto
   0 .15 rmoveto
    .4 0 rlineto
    .05 -.0375 rlineto
    .1 -.075 rlineto
    .05 -.0375 rlineto
    .4 0 rlineto
    stroke
}def
/magbbraid {
    2 сору
   moveto
    .275 0 rlineto
    .166667 .33333 rlineto
.141633 0 rlineto
    .166667 -.33333 rlineto
    .25 0 rlineto
   stroke
   newpath
    2 сору
   moveto
   0 .15 rmoveto
    .1717 0 rlineto
    0.129166 0.25833 rlineto
   -0.129166 0.25833 rlineto
    -.166667 .33333 rlineto
    stroke
   newpath
    2 сору
    moveto
    0 1.15 rmoveto
    .166667 .33333 rlineto .666667 0 rlineto
    .166667 -.33333 rlineto
   stroke
   newpath
    2 copy
   moveto
   1 1 rmoveto
    -.083333 0 rlineto
    -.166667 .33333 rlineto
    -.5000 0 rlineto
    -.129166 -.2583 rlineto
    .29583333 -.59166666 rlineto
    .08333 0 rlineto
   stroke
   newpath
   {\tt moveto}
   1 .15 rmoveto
   -.166667 0 rlineto
   -.166667 .33333 rlineto
    -.166667 0 rlineto
   stroke
}def
```

```
/magibbraid {
    2 сору
   moveto
    0 1.15 rmoveto
    .275 0 rlineto
    .166667 -.33333 rlineto
    .141633 0 rlineto
    .166667 .33333 rlineto
    .25 0 rlineto
    stroke
   newpath
    2 сору
   moveto
   0 1 rmoveto
    .1717 0 rlineto
    0.129166 -0.25833 rlineto
   -0.129166 -0.25833 rlineto
    -.166667 -.33333 rlineto
    stroke
   newpath
    2 сору
   moveto
    .166667 -.33333 rlineto
    .666667 0 rlineto
    .166667 .33333 rlineto
   stroke
   newpath
    2 сору
   moveto
   1 .15 rmoveto
   -.083333 0 rlineto
   -.166667 -.33333 rlineto
   -.5000 0 rlineto
    -.129166 .2583 rlineto
    .29583333 .59166666 rlineto
    .08333 0 rlineto
   stroke
   newpath
   moveto
   1 1 rmoveto
    -.166667 0 rlineto
    -.166667 -.33333 rlineto
    -.166667 0 rlineto
   stroke
}def
/cbraid {
    2 сору
   moveto
    0 1 rmoveto
    .33333 0 rlineto
   .166667 -.33333 rlineto
-.166667 -.33333 rlineto
    -.166667 0 rlineto
   -.166667 -.33333 rlineto
.166667 -.33333 rlineto
    .6666667 0 rlineto
    .166667 .33333 rlineto
    stroke
   newpath
    moveto
    0.5 .666667 rmoveto
    .33333 0 rlineto
    .166667 .33333 rlineto
    stroke
}def
```

~/DaChecked/knots/braids/from_BraidCalc/

```
/dbraid {
    2 copy
   moveto
   0 1 rmoveto
    .33333 0 rlineto
   .166667 -.33333 rlineto
-.166667 -.33333 rlineto
   -.166667 0 rlineto
   -.166667 -.33333 rlineto
.166667 -.33333 rlineto
    .6666667 0 rlineto
    .166667 .33333 rlineto
   stroke
   newpath
   moveto
   0.5 .666667 rmoveto
    .33333 0 rlineto
    .166667 .33333 rlineto
   stroke
}def
/ident {
   moveto
   1 0 rlineto
    stroke
} def
/magident {
    2 сору
   moveto
   1 0 rlineto
   stroke
   newpath
   moveto
   0 .15 rmoveto
   1 0 rlineto
   stroke
}def
/vmagident {
    2 сору
   moveto
   0 1 rlineto
   stroke
   newpath
   moveto
    .15 0 rmoveto
    0 1 rlineto
   stroke
} def
/wstn { % white stone with note stack: x y note
        3 copy noteparams
        wst
        wsnotecolor
} def
/bstn {
                % black stone with note stack: x y note
        3 copy noteparams
        bsnotecolor
        note
} def
/hoshi {
                % draw hoshi dot stack: x y
        hoshicolor
        newpath hoshiradius 0 360 arc fill
} def
```

```
/spotn {
                % note on empty spot
                                     stack: x y note
                % stroke with wide stroke and then scale to size to fill
        3 сору
                       % x y n x y n
        /n exch def
        % figure out what part of grid to hide
       n noteparams
       gsave
       newpath translate 0 0
       /proc load 0 ne {
                                  % outline the symbol
               proc strokepath
               moveto dx dy rmoveto
               n false charpath flattenpath
        } ifelse
       noteaura setlinewidth
        1 setlinejoin
        strokepath
        0 0 noteaura 2 mul 0 360 arc
       BoardColor fill
       grestore
       boardnotecolor note
} def
       % stop defining godict
end
grestore
beginpage
380 tL
gsave
20 tY 361 sub translate
0 0 moveto 362 0 lineto 362 373 lineto 0 373 lineto closepath clip newpath
 % gofig: Go Diagram 19 rows by 19 columns
 godict begin
 16.9787 17.5193 % spot size
 dtransform round exch round exch idtransform
 /sph exch def /spw exch def % in print pixels
 362 spw -18 mul add 2 div
 373 sph 18 mul add 2 div
translate spw sph neg scale
  /Times-Roman findfont [0.680 0 0 -0.680 0 0 ]
 makefont setfont
  /inxlet (ABCDEFGHJKLMNOPQRSTUVWXYZ) def
  0 1 18 { %draw top/bottom indices
       dup dup newpath
       inxlet exch 1 getinterval /let exch def
응
        -0.925 moveto let showcentered
응
       18.925 moveto let showcentered
  } for
  0 1 18 { % draw side indices
       dup dup newpath
       19 exch sub inxlet cvs /let exch def
       -0.925 exch moveto let showcentered
       18.925 exch moveto let showcentered
% } for
 2 setlinecap linecolor linethick setlinewidth
4 4 magibraid
5 2 magbbraid
2 3 magbraid
3 2 magbraid
    magident
1 1
    magident
1 3 magident
1 4 magident
1 5
    magident
1 6
    magident
    magident
```

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```
magident
    magident
1 9
2 1
    magident
    magident
2 5 magident
2 6 magident
2 7
    magident
2 8 magident
2 9 magident
3 1 magident
3 4
    magident
3 5 magident
3 6 magident
    magident
3 8 magident
3 9
    magident
4 1
    magident
4 2
    magident
4 3
    magident
4 6
    magident
4 7
    magident
4 8
    magident
4 9
    magident
5 1
    magident
    magident
5 4
5 5
    magident
    magident
5 7
    magident
5 8 magident
5 9 magident
6 1
    magident
6 2 magident
6 3 magident
6 4
    magident
6 5 magident
6 6 magident
6 7
    magident
6 8 magident
6 9 magident
%2 0 magbraid
%1 0 magident
%1 1 magident
%3 0 magident
%3 1 magident
%2 2 magbbraid
%1 2 magident
%1 3 magident
%3 2 magident
%3 3 magident
 end % discard godict
```

grestore
endpage