

Verbose header: Running through the Bedlewo Program

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In[0]:= SetDirectory["C:\dronbn\AcademicPensieve\Talks\CMS-2112"
C:\dronbn\AcademicPensieve\Talks\CMS-2112
    
```

```

In[1]:= Once[<< KnotTheory`1
Loading KnotTheory` version of October 29, 2024, 10:29:52.1301.
    
```

```

In[2]:= MatrixSignature[A_] := Total[Sign[Select[Eigenvalues[A], Abs[#] > 10^-12 &]]];
    
```

<< BedAndKnot.m

```

In[3]:= PD[82] = PD[X[10, 1, 11, 2], X[2, 11, 3, 12], X[12, 3, 13, 4],
    
```

```

In[4]:= {the - Jones[8, 1][a] rhs - Jones[Knot[8, 211][a] lhs - rhs}
    
```

```

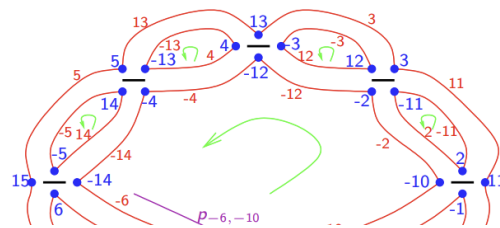
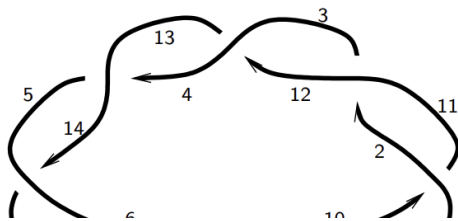
Out[4]:= {1 1 2 2 3 3 2 2 1 1 1 2 3 3 2 2 1 True}
    
```

```

In[5]:= v = 0.
    
```

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In[6]:= + - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15
    
```



```

In[7]:= XingsByArmpits =
    
```

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Out[7]:= {X_[-1, 11, 2, -10], X_[-11, 3, 12, -2], X_[-3, 13, 4, -12], X_[-13, 5, 14, -4],
    
```

```

In[8]:= hands = Times @@ XingsByArmpits / {X1[a, b, c, d], X2[a, b, c, d], X3[a, b, c, d], X4[a, b, c, d], X5[a, b, c, d], X6[a, b, c, d], X7[a, b, c, d], X8[a, b, c, d], X9[a, b, c, d], X10[a, b, c, d], X11[a, b, c, d], X12[a, b, c, d], X13[a, b, c, d], X14[a, b, c, d], X15[a, b, c, d]}
    
```

```

In[9]:= faces = hands // Flatten // Union
Out[9]:= P-13,4,-13 P-11,2,-11 P-5,14,-5 P-3,12,-3 P8,16,8 P6,-15,-9,6
    
```

```

In[10]:= A = Table[0, Length@faces, Length@faces];
    
```

```

Out[10]:= {
  {0 0 0 0 0 0 0 0 0 0},
  {0 0 0 0 0 0 0 0 0 0},
  {0 0 0 0 0 0 0 0 0 0},
  {0 0 0 0 0 0 0 0 0 0},
  {0 0 0 0 0 0 0 0 0 0},
  {0 0 0 0 0 0 0 0 0 0}
}
    
```

```

In[11]:= v = XingsByArmpits[[1]]
Out[11]:= v = {1 11 2 -10}
    
```

```

In[12]:= faces
Out[12]:= P-13,4,-13 P-11,2,-11 P-5,14,-5 P-3,12,-3 P8,16,8 P6,-15,-9,6
    
```

```

In[13]:= is = Position[faces, #][[1, 1]] & /@ List @@ v
Out[13]:= {8 10 2 0}
    
```

```

In[14]:= Do[is = Position[faces, #][[1, 1]] & /@ List @@ v;
  A[[is, is]] += If[Head[x] === X+,
    { -r -t 2t t* } { r -t -2t* t* }
  ]
    
```

```

In[1]:= Simplify[A / 2 / Conjugate[ω] + ω] // MatrixForm
Out[1]=

$$\begin{pmatrix} 2 - \omega - \bar{\omega} & 0 & -1 + \bar{\omega} & -1 + \omega & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 2 - \omega - \bar{\omega} & 0 & -1 + \bar{\omega} & 0 & 0 & 0 & -1 + \omega & 0 & 0 \\ -1 + \omega & 0 & 2 - \omega - \bar{\omega} & 0 & 0 & -1 + \bar{\omega} & 0 & 0 & 0 & 0 \\ -1 + \bar{\omega} & -1 + \omega & 0 & 2 - \omega - \bar{\omega} & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{pmatrix}$$


```

