Pensieve header: A bug in IdentifyWithin reported by Michal Jablonowski.

In[ ]:= `<< KnotTheory``

```
Loading KnotTheory` version of February 2, 2020, 10:53:45.2097.
Read more at http://katlas.org/wiki/KnotTheory.
```

In[ ]:= `K = PD[X[7, 1, 8, 30], X[12, 20, 13, 19], X[5, 25, 6, 24], X[17, 5, 18, 4], X[2, 16, 3, 15],`
`    X[13, 10, 14, 11], X[6, 23, 7, 24], X[8, 22, 9, 21], X[22, 1, 23, 2], X[18, 12, 19, 11],`
`    X[14, 28, 15, 27], X[9, 28, 10, 29], X[3, 26, 4, 27], X[29, 20, 30, 21], X[16, 25, 17, 26]];`

In[ ]:= `DrawMorseLink[K]`

> KnotTheory: MorseLink was added to KnotTheory` by Siddarth Sankaran
> at the University of Toronto in the summer of 2005.

> KnotTheory: DrawMorseLink was written by Siddarth Sankaran
> at the University of Toronto in the summer of 2005.

Out[ ]=
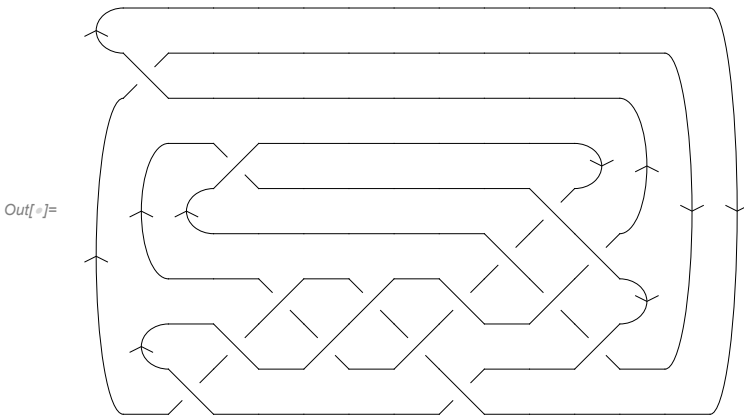
In[ ]:= `Import["http://katlas.org/w/index.php?title=IdentifyWithin.m&action=raw"];`

In[ ]:= `IDs = IdentifyWithin[K, AllKnots[{0, 13}]]`

> KnotTheory: Loading precomputed data in Jones4Knots`.

> KnotTheory: Loading precomputed data in Jones4Knots11`.

> KnotTheory: Loading precomputed data in KnotTheory/12A.dts.

> General: Further output of KnotTheory::loading will be suppressed during this calculation.

> KnotTheory: The GaussCode to PD conversion was written by Siddarth Sankaran at the University of Toronto in the summer of
> 2005.

Out[ ]= `{Knot[13, NonAlternating, 269]}`

In[ ]:= `IdentifyWithin[K, Complement[AllKnots[{0, 13}], IDs]]`

> KnotTheory: The HOMFLYPT program was written by Scott Morrison.

> KnotTheory: The Kauffman polynomial program was written by Scott Morrison.

> KnotTheory: Loading precomputed data in PD4Knots`.

> KnotTheory: Loading precomputed data in DTCode4KnotsTo11`.

Out[ ]= `{ConnectedSum[Knot[3, 1], Mirror[Knot[5, 2]]]}`

In[ ]:= **IDs2 = IdentifyWithin[K, AllKnots[]]**

Out[ ]= {ConnectedSum[Knot[3, 1], Mirror[Knot[5, 2]]]}

In[ ]:= **Kh[IDs〚1〛][q, t]**

> KnotTheory: The Khovanov homology program JavaKh–v2 is an update of Jeremy Green's program JavaKh–v1, written by Scott Morrison in 2008 at Microsoft Station Q.

Out[ ]= $q + 3 q^3 + 2 q^5 + \dfrac{1}{q^7 t^5} + \dfrac{1}{q^5 t^4} + \dfrac{1}{q^3 t^4} + \dfrac{2}{q^3 t^3} + \dfrac{1}{q t^3} + \dfrac{2}{q t^2} +$

$\dfrac{2 q}{t^2} + \dfrac{2 q}{t} + \dfrac{2 q^3}{t} + q^5 t + 2 q^7 t + q^5 t^2 + q^7 t^2 + q^9 t^2 + q^9 t^3 + q^{11} t^3$

In[ ]:= **Kh[IDs2〚1〛][q, t]**

Out[ ]= $\dfrac{2}{q} + 3 q + \dfrac{1}{q^7 t^3} + \dfrac{1}{q^5 t^2} + \dfrac{1}{q^3 t^2} + \dfrac{2}{q^3 t} + \dfrac{1}{q t} + 2 q t + q^3 t + 2 q^3 t^2 + 2 q^5 t^2 + 2 q^7 t^3 + q^7 t^4 + q^{11} t^5$

In[ ]:= **IdentifyWithin[K, AllKnots[{0, 13}], Invariants → {Kh[#][q, t] &}]**

Out[ ]= {Knot[13, NonAlternating, 269]}