

PassReducible@ k gives True if the knot k , which is given in modified DT form, is reducible with a 2,1-pass move or a 3,2-pass move, and False otherwise.

```
PassReducible@k_MDT := PassReducible@k =
Block[{1, n = Length@k, p = List @@ Build@k
// (#^T ∪ (Abs@Reverse@#
      Sign /@ List @@ Build[MDT @@ (-List @@ k)])^T)^T[[2]] &, v = True},
Do[If[(Sign@p[[Mod[i + j (Range@o - 1), 2 n, 1]]] ∪ {})^2 == {1},
If[o == 3, Goto@1];
Do[If[Total@Mod[e, 2] == 2, If[(Mod[e, 2 n, e[[1]]
// Partition[#, 2] &
// Range @@@ # &)] [[;;, 2 ;; -2]]
// Mod[#, 2 n, 1] &
// Union @@ # &
// # == Abs@p[[#]] ∪ {} &, Goto@1]],
{e, Select[Table[SortBy[{c, i} ∪ Abs@p[[Mod[{i, i + j}, 2 n, 1]]],
Mod[#, 2 n, i] &], {c, 2 n}],
Length@# == 4 &]^T[[If[j == 1, {2, 3, 4, 1}, ;;]]^T]]],
{o, {3, 2}}, {i, 2 n}, {j, {1, -1}}];
v = False;
Label@1];
```