

Code to find a crossing order that would produce a minimum virtual width permutation as well as the minimum virtual width of a knot.

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

In[ ]:= maxWidthPresentationList[pdList_] :=
  Max[Length /@ FoldList[Complement [#1 ∪ #2, #1 ∩ #2] &, {}, List @@@ pdList]]

In[ ]:= maxWidthPresentationList[List @@ PD[Knot[5, 2]]]
KnotTheory: Loading precomputed data in PD4Knots`.

Out[ ]:= 6

In[ ]:= RandomSample[List @@ PD[Knot[5, 2]]]
Out[ ]:= {X[7, 2, 8, 3], X[3, 8, 4, 9], X[5, 10, 6, 1], X[1, 4, 2, 5], X[9, 6, 10, 7]}

In[ ]:= Permutations[List @@ PD[Knot[5, 2]]][[2]]
Out[ ]:= {X[1, 4, 2, 5], X[3, 8, 4, 9], X[5, 10, 6, 1], X[7, 2, 8, 3], X[9, 6, 10, 7]}

In[ ]:= MinVWidthPermutation[pd_PD] :=
  SortBy[Permutations[List @@ pd], maxWidthPresentationList[#] &][[1]]

In[ ]:= MinVWidthPermutation[PD[Knot[5, 2]]]
Out[ ]:= {X[1, 4, 2, 5], X[5, 10, 6, 1], X[9, 6, 10, 7], X[3, 8, 4, 9], X[7, 2, 8, 3]}

In[ ]:= MinVWidth[pd_PD] := maxWidthPresentationList[MinVWidthPermutation[pd]]

In[ ]:= MinVWidth[PD[Knot[5, 2]]]
Out[ ]:= 4

In[ ]:= quantitiesGivenCrossingNum = <|3 → 1,
  4 → 1, 5 → 2, 6 → 3, 7 → 7, 8 → 21, 9 → 49, 10 → 165|>
Out[ ]:= <|3 → 1, 4 → 1, 5 → 2, 6 → 3, 7 → 7, 8 → 21, 9 → 49, 10 → 165|>

In[ ]:= Table[Echo[Knot[i, j] → MinVWidthPermutation[PD[Knot[i, j]]]],
  {i, 3, 10}, {j, 1, quantitiesGivenCrossingNum[i]}]
  » Knot[3, 1] → {X[1, 4, 2, 5], X[3, 6, 4, 1], X[5, 2, 6, 3]}
  » Knot[4, 1] → {X[2, 7, 3, 8], X[6, 3, 7, 4], X[4, 2, 5, 1], X[8, 6, 1, 5]}
  » Knot[5, 1] → {X[1, 6, 2, 7], X[5, 10, 6, 1], X[7, 2, 8, 3], X[3, 8, 4, 9], X[9, 4, 10, 5]}
  » Knot[5, 2] → {X[1, 4, 2, 5], X[5, 10, 6, 1], X[9, 6, 10, 7], X[3, 8, 4, 9], X[7, 2, 8, 3]}
  » Knot[6, 1] →
    {X[1, 4, 2, 5], X[5, 12, 6, 1], X[11, 6, 12, 7], X[7, 10, 8, 11], X[3, 9, 4, 8], X[9, 3, 10, 2]}
  » Knot[6, 2] →
    {X[3, 9, 4, 8], X[9, 3, 10, 2], X[1, 4, 2, 5], X[5, 10, 6, 11], X[7, 12, 8, 1], X[11, 6, 12, 7]}
  » Knot[6, 3] →
    {X[2, 8, 3, 7], X[8, 4, 9, 3], X[4, 2, 5, 1], X[12, 9, 1, 10], X[6, 11, 7, 12], X[10, 5, 11, 6]}

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- » Knot[7, 1] → {X[1, 8, 2, 9], X[7, 14, 8, 1], X[9, 2, 10, 3],
X[3, 10, 4, 11], X[11, 4, 12, 5], X[5, 12, 6, 13], X[13, 6, 14, 7]}
- » Knot[7, 2] → {X[1, 4, 2, 5], X[5, 14, 6, 1], X[13, 6, 14, 7],
X[7, 12, 8, 13], X[11, 8, 12, 9], X[3, 10, 4, 11], X[9, 2, 10, 3]}
- » Knot[7, 3] → {X[2, 10, 3, 9], X[10, 4, 11, 3],
X[4, 12, 5, 11], X[12, 6, 13, 5], X[6, 2, 7, 1], X[8, 14, 9, 13], X[14, 8, 1, 7]}
- » Knot[7, 4] → {X[2, 12, 3, 11], X[10, 4, 11, 3],
X[4, 10, 5, 9], X[12, 6, 13, 5], X[6, 2, 7, 1], X[8, 14, 9, 13], X[14, 8, 1, 7]}
- » Knot[7, 5] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5],
X[11, 8, 12, 9], X[5, 12, 6, 13], X[7, 14, 8, 1], X[13, 6, 14, 7]}
- » Knot[7, 6] → {X[3, 8, 4, 9], X[7, 2, 8, 3], X[1, 4, 2, 5],
X[9, 1, 10, 14], X[13, 11, 14, 10], X[5, 12, 6, 13], X[11, 6, 12, 7]}
- » Knot[7, 7] → {X[3, 9, 4, 8], X[9, 3, 10, 2], X[1, 4, 2, 5],
X[5, 10, 6, 11], X[11, 14, 12, 1], X[7, 13, 8, 12], X[13, 7, 14, 6]}
- » Knot[8, 1] → {X[1, 4, 2, 5], X[5, 16, 6, 1], X[15, 6, 16, 7],
X[7, 14, 8, 15], X[13, 8, 14, 9], X[9, 12, 10, 13], X[3, 11, 4, 10], X[11, 3, 12, 2]}
- » Knot[8, 2] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5],
X[5, 12, 6, 13], X[9, 16, 10, 1], X[13, 6, 14, 7], X[7, 14, 8, 15], X[15, 8, 16, 9]}
- » Knot[8, 3] → {X[2, 13, 3, 14], X[12, 3, 13, 4], X[4, 11, 5, 12],
X[10, 5, 11, 6], X[6, 2, 7, 1], X[14, 10, 15, 9], X[8, 16, 9, 15], X[16, 8, 1, 7]}
- » Knot[8, 4] → {X[4, 11, 5, 12], X[10, 3, 11, 4], X[12, 5, 13, 6],
X[2, 13, 3, 14], X[6, 2, 7, 1], X[14, 10, 15, 9], X[8, 16, 9, 15], X[16, 8, 1, 7]}
- » Knot[8, 5] → {X[2, 8, 3, 7], X[6, 2, 7, 1], X[8, 4, 9, 3], X[4, 13, 5, 14],
X[12, 5, 13, 6], X[14, 10, 15, 9], X[10, 16, 11, 15], X[16, 12, 1, 11]}
- » Knot[8, 6] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5],
X[9, 12, 10, 13], X[13, 8, 14, 9], X[5, 14, 6, 15], X[7, 16, 8, 1], X[15, 6, 16, 7]}
- » Knot[8, 7] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5],
X[11, 1, 12, 16], X[5, 13, 6, 12], X[13, 7, 14, 6], X[7, 15, 8, 14], X[15, 9, 16, 8]}
- » Knot[8, 8] → {X[3, 8, 4, 9], X[7, 2, 8, 3], X[1, 4, 2, 5], X[9, 1, 10, 16],
X[15, 11, 16, 10], X[11, 15, 12, 14], X[5, 13, 6, 12], X[13, 7, 14, 6]}
- » Knot[8, 9] → {X[4, 11, 5, 12], X[10, 3, 11, 4], X[12, 5, 13, 6],
X[2, 13, 3, 14], X[6, 2, 7, 1], X[14, 8, 15, 7], X[8, 16, 9, 15], X[16, 10, 1, 9]}
- » Knot[8, 10] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 13, 6, 12],
X[11, 1, 12, 16], X[13, 7, 14, 6], X[9, 15, 10, 14], X[15, 11, 16, 10]}
- » Knot[8, 11] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5],
X[5, 12, 6, 13], X[9, 16, 10, 1], X[13, 8, 14, 9], X[7, 14, 8, 15], X[15, 6, 16, 7]}
- » Knot[8, 12] → {X[2, 9, 3, 10], X[8, 3, 9, 4], X[4, 2, 5, 1],
X[10, 8, 11, 7], X[16, 11, 1, 12], X[12, 15, 13, 16], X[6, 14, 7, 13], X[14, 6, 15, 5]}
- » Knot[8, 13] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5],
X[11, 1, 12, 16], X[5, 13, 6, 12], X[13, 9, 14, 8], X[7, 15, 8, 14], X[15, 7, 16, 6]}
- » Knot[8, 14] → {X[3, 9, 4, 8], X[9, 3, 10, 2], X[1, 4, 2, 5],
X[5, 10, 6, 11], X[11, 16, 12, 1], X[15, 12, 16, 13], X[7, 14, 8, 15], X[13, 6, 14, 7]}

- » Knot[8, 15] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 12, 6, 13],
X[11, 6, 12, 7], X[9, 14, 10, 15], X[13, 16, 14, 1], X[15, 10, 16, 11]}
- » Knot[8, 16] → {X[2, 14, 3, 13], X[6, 2, 7, 1], X[12, 7, 13, 8],
X[8, 3, 9, 4], X[4, 9, 5, 10], X[14, 6, 15, 5], X[10, 15, 11, 16], X[16, 11, 1, 12]}
- » Knot[8, 17] → {X[2, 13, 3, 14], X[6, 2, 7, 1], X[12, 5, 13, 6],
X[14, 8, 15, 7], X[8, 3, 9, 4], X[4, 9, 5, 10], X[10, 16, 11, 15], X[16, 12, 1, 11]}
- » Knot[8, 18] → {X[2, 14, 3, 13], X[6, 2, 7, 1], X[12, 7, 13, 8],
X[8, 3, 9, 4], X[14, 10, 15, 9], X[4, 15, 5, 16], X[10, 6, 11, 5], X[16, 11, 1, 12]}
- » Knot[8, 19] → {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[5, 13, 6, 12],
X[11, 1, 12, 16], X[13, 7, 14, 6], X[9, 15, 10, 14], X[15, 11, 16, 10]}
- » Knot[8, 20] → {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[5, 12, 6, 13],
X[11, 6, 12, 7], X[9, 14, 10, 15], X[13, 16, 14, 1], X[15, 10, 16, 11]}
- » Knot[8, 21] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[6, 12, 7, 11],
X[12, 6, 13, 5], X[9, 14, 10, 15], X[13, 16, 14, 1], X[15, 10, 16, 11]}
- » Knot[9, 1] → {X[1, 10, 2, 11], X[9, 18, 10, 1], X[11, 2, 12, 3], X[3, 12, 4, 13],
X[13, 4, 14, 5], X[5, 14, 6, 15], X[15, 6, 16, 7], X[7, 16, 8, 17], X[17, 8, 18, 9]}
- » Knot[9, 2] → {X[1, 4, 2, 5], X[5, 18, 6, 1], X[17, 6, 18, 7], X[7, 16, 8, 17],
X[15, 8, 16, 9], X[9, 14, 10, 15], X[13, 10, 14, 11], X[3, 12, 4, 13], X[11, 2, 12, 3]}
- » Knot[9, 3] → {X[2, 12, 3, 11], X[12, 4, 13, 3], X[4, 14, 5, 13], X[14, 6, 15, 5],
X[6, 16, 7, 15], X[16, 8, 17, 7], X[8, 2, 9, 1], X[10, 18, 11, 17], X[18, 10, 1, 9]}
- » Knot[9, 4] → {X[1, 6, 2, 7], X[7, 18, 8, 1], X[17, 8, 18, 9], X[9, 16, 10, 17],
X[15, 10, 16, 11], X[5, 14, 6, 15], X[11, 2, 12, 3], X[3, 12, 4, 13], X[13, 4, 14, 5]}
- » Knot[9, 5] → {X[2, 14, 3, 13], X[12, 4, 13, 3], X[4, 12, 5, 11], X[14, 6, 15, 5],
X[6, 2, 7, 1], X[10, 16, 11, 15], X[16, 10, 17, 9], X[8, 18, 9, 17], X[18, 8, 1, 7]}
- » Knot[9, 6] → {X[3, 12, 4, 13], X[11, 2, 12, 3], X[1, 4, 2, 5], X[13, 10, 14, 11],
X[5, 14, 6, 15], X[9, 18, 10, 1], X[15, 6, 16, 7], X[7, 16, 8, 17], X[17, 8, 18, 9]}
- » Knot[9, 7] → {X[3, 12, 4, 13], X[11, 2, 12, 3], X[1, 4, 2, 5], X[13, 10, 14, 11],
X[9, 14, 10, 15], X[15, 8, 16, 9], X[5, 16, 6, 17], X[7, 18, 8, 1], X[17, 6, 18, 7]}
- » Knot[9, 8] → {X[3, 8, 4, 9], X[7, 2, 8, 3], X[1, 4, 2, 5], X[9, 1, 10, 18],
X[17, 11, 18, 10], X[11, 17, 12, 16], X[15, 13, 16, 12], X[5, 14, 6, 15], X[13, 6, 14, 7]}
- » Knot[9, 9] → {X[3, 12, 4, 13], X[11, 2, 12, 3], X[13, 4, 14, 5], X[5, 14, 6, 15],
X[1, 6, 2, 7], X[15, 10, 16, 11], X[7, 16, 8, 17], X[9, 18, 10, 1], X[17, 8, 18, 9]}
- » Knot[9, 10] → {X[4, 16, 5, 15], X[14, 6, 15, 5], X[6, 14, 7, 13], X[12, 4, 13, 3],
X[2, 12, 3, 11], X[16, 8, 17, 7], X[8, 2, 9, 1], X[10, 18, 11, 17], X[18, 10, 1, 9]}
- » Knot[9, 11] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[9, 12, 10, 13],
X[13, 1, 14, 18], X[5, 15, 6, 14], X[15, 7, 16, 6], X[7, 17, 8, 16], X[17, 9, 18, 8]}
- » Knot[9, 12] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5], X[11, 1, 12, 18],
X[17, 13, 18, 12], X[5, 16, 6, 17], X[13, 8, 14, 9], X[7, 14, 8, 15], X[15, 6, 16, 7]}
- » Knot[9, 13] → {X[2, 14, 3, 13], X[12, 4, 13, 3], X[4, 12, 5, 11], X[14, 6, 15, 5],
X[6, 2, 7, 1], X[10, 16, 11, 15], X[16, 8, 17, 7], X[8, 18, 9, 17], X[18, 10, 1, 9]}
- » Knot[9, 14] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[5, 12, 6, 13],
X[13, 18, 14, 1], X[9, 15, 10, 14], X[15, 9, 16, 8], X[7, 17, 8, 16], X[17, 7, 18, 6]}

- » Knot[9, 15] → {X[3, 9, 4, 8], X[9, 3, 10, 2], X[1, 4, 2, 5], X[7, 10, 8, 11],
X[11, 1, 12, 18], X[17, 13, 18, 12], X[13, 17, 14, 16], X[5, 15, 6, 14], X[15, 7, 16, 6]}
- » Knot[9, 16] → {X[2, 12, 3, 11], X[4, 2, 5, 1], X[12, 4, 13, 3], X[8, 14, 9, 13],
X[14, 10, 15, 9], X[10, 16, 11, 15], X[16, 6, 17, 5], X[6, 18, 7, 17], X[18, 8, 1, 7]}
- » Knot[9, 17] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[5, 12, 6, 13],
X[13, 6, 14, 7], X[7, 14, 8, 15], X[15, 18, 16, 1], X[9, 17, 10, 16], X[17, 9, 18, 8]}
- » Knot[9, 18] → {X[3, 12, 4, 13], X[11, 2, 12, 3], X[1, 4, 2, 5], X[13, 10, 14, 11],
X[5, 14, 6, 15], X[9, 18, 10, 1], X[15, 8, 16, 9], X[7, 16, 8, 17], X[17, 6, 18, 7]}
- » Knot[9, 19] → {X[3, 9, 4, 8], X[9, 3, 10, 2], X[1, 4, 2, 5], X[5, 10, 6, 11],
X[11, 18, 12, 1], X[17, 12, 18, 13], X[13, 16, 14, 17], X[7, 15, 8, 14], X[15, 7, 16, 6]}
- » Knot[9, 20] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5], X[11, 1, 12, 18],
X[17, 13, 18, 12], X[13, 8, 14, 9], X[5, 14, 6, 15], X[7, 16, 8, 17], X[15, 6, 16, 7]}
- » Knot[9, 21] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[9, 12, 10, 13],
X[13, 1, 14, 18], X[5, 15, 6, 14], X[15, 9, 16, 8], X[7, 17, 8, 16], X[17, 7, 18, 6]}
- » Knot[9, 22] → {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 6, 11, 5],
X[6, 15, 7, 16], X[14, 7, 15, 8], X[16, 12, 17, 11], X[12, 18, 13, 17], X[18, 14, 1, 13]}
- » Knot[9, 23] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5], X[11, 8, 12, 9],
X[5, 12, 6, 13], X[13, 18, 14, 1], X[17, 14, 18, 15], X[7, 16, 8, 17], X[15, 6, 16, 7]}
- » Knot[9, 24] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 14, 6, 15],
X[13, 6, 14, 7], X[9, 17, 10, 16], X[15, 13, 16, 12], X[11, 1, 12, 18], X[17, 11, 18, 10]}
- » Knot[9, 25] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 12, 6, 13],
X[11, 6, 12, 7], X[9, 17, 10, 16], X[13, 18, 14, 1], X[15, 11, 16, 10], X[17, 14, 18, 15]}
- » Knot[9, 26] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[5, 12, 6, 13],
X[13, 18, 14, 1], X[17, 7, 18, 6], X[7, 15, 8, 14], X[9, 17, 10, 16], X[15, 9, 16, 8]}
- » Knot[9, 27] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5], X[11, 1, 12, 18],
X[5, 13, 6, 12], X[17, 9, 18, 8], X[13, 17, 14, 16], X[7, 14, 8, 15], X[15, 6, 16, 7]}
- » Knot[9, 28] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 13, 6, 12],
X[13, 7, 14, 6], X[9, 16, 10, 17], X[11, 15, 12, 14], X[15, 18, 16, 1], X[17, 10, 18, 11]}
- » Knot[9, 29] → {X[2, 15, 3, 16], X[6, 2, 7, 1], X[14, 5, 15, 6], X[18, 8, 1, 7],
X[8, 13, 9, 14], X[4, 10, 5, 9], X[10, 4, 11, 3], X[12, 17, 13, 18], X[16, 11, 17, 12]}
- » Knot[9, 30] → {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 6, 11, 5],
X[6, 14, 7, 13], X[14, 8, 15, 7], X[12, 17, 13, 18], X[16, 11, 17, 12], X[18, 15, 1, 16]}
- » Knot[9, 31] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5], X[11, 1, 12, 18],
X[5, 13, 6, 12], X[17, 7, 18, 6], X[13, 16, 14, 17], X[7, 14, 8, 15], X[15, 8, 16, 9]}
- » Knot[9, 32] → {X[1, 4, 2, 5], X[3, 9, 4, 8], X[9, 3, 10, 2], X[5, 12, 6, 13],
X[13, 18, 14, 1], X[7, 15, 8, 14], X[15, 11, 16, 10], X[11, 17, 12, 16], X[17, 7, 18, 6]}
- » Knot[9, 33] → {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 16, 11, 15],
X[14, 5, 15, 6], X[16, 12, 17, 11], X[6, 17, 7, 18], X[12, 8, 13, 7], X[18, 13, 1, 14]}
- » Knot[9, 34] → {X[2, 15, 3, 16], X[6, 2, 7, 1], X[16, 8, 17, 7], X[8, 3, 9, 4],
X[14, 9, 15, 10], X[4, 14, 5, 13], X[10, 6, 11, 5], X[12, 17, 13, 18], X[18, 11, 1, 12]}
- » Knot[9, 35] → {X[1, 8, 2, 9], X[7, 14, 8, 15], X[9, 18, 10, 1], X[13, 2, 14, 3],
X[3, 12, 4, 13], X[11, 4, 12, 5], X[15, 6, 16, 7], X[5, 16, 6, 17], X[17, 10, 18, 11]}

- » Knot[9, 36] → {X[1, 4, 2, 5], X[3, 9, 4, 8], X[9, 3, 10, 2], X[5, 15, 6, 14],
X[7, 10, 8, 11], X[13, 1, 14, 18], X[15, 7, 16, 6], X[11, 17, 12, 16], X[17, 13, 18, 12]}
- » Knot[9, 37] → {X[1, 4, 2, 5], X[3, 11, 4, 10], X[11, 3, 12, 2], X[5, 14, 6, 15],
X[13, 6, 14, 7], X[7, 12, 8, 13], X[9, 17, 10, 16], X[15, 18, 16, 1], X[17, 9, 18, 8]}
- » Knot[9, 38] → {X[1, 6, 2, 7], X[5, 14, 6, 15], X[7, 18, 8, 1], X[13, 2, 14, 3],
X[15, 8, 16, 9], X[9, 4, 10, 5], X[3, 10, 4, 11], X[11, 16, 12, 17], X[17, 12, 18, 13]}
- » Knot[9, 39] → {X[1, 6, 2, 7], X[5, 15, 6, 14], X[7, 18, 8, 1], X[13, 9, 14, 8],
X[15, 5, 16, 4], X[9, 17, 10, 16], X[3, 11, 4, 10], X[11, 3, 12, 2], X[17, 13, 18, 12]}
- » Knot[9, 40] → {X[1, 6, 2, 7], X[5, 15, 6, 14], X[13, 18, 14, 1], X[7, 12, 8, 13],
X[11, 3, 12, 2], X[15, 10, 16, 11], X[3, 16, 4, 17], X[9, 4, 10, 5], X[17, 9, 18, 8]}
- » Knot[9, 41] → {X[2, 11, 3, 12], X[6, 2, 7, 1], X[10, 3, 11, 4], X[12, 8, 13, 7],
X[18, 14, 1, 13], X[8, 17, 9, 18], X[14, 5, 15, 6], X[4, 15, 5, 16], X[16, 9, 17, 10]}
- » Knot[9, 42] → {X[1, 4, 2, 5], X[3, 9, 4, 8], X[9, 3, 10, 2], X[5, 10, 6, 11],
X[6, 15, 7, 16], X[14, 7, 15, 8], X[16, 12, 17, 11], X[12, 18, 13, 17], X[18, 14, 1, 13]}
- » Knot[9, 43] → {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 6, 11, 5],
X[6, 14, 7, 13], X[14, 8, 15, 7], X[11, 17, 12, 16], X[15, 1, 16, 18], X[17, 13, 18, 12]}
- » Knot[9, 44] → {X[1, 4, 2, 5], X[3, 9, 4, 8], X[9, 3, 10, 2], X[5, 10, 6, 11],
X[6, 14, 7, 13], X[14, 8, 15, 7], X[12, 17, 13, 18], X[16, 11, 17, 12], X[18, 15, 1, 16]}
- » Knot[9, 45] → {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[7, 14, 8, 15],
X[10, 6, 11, 5], X[13, 6, 14, 7], X[12, 17, 13, 18], X[16, 11, 17, 12], X[18, 15, 1, 16]}
- » Knot[9, 46] → {X[2, 11, 3, 12], X[4, 2, 5, 1], X[10, 3, 11, 4], X[5, 14, 6, 15],
X[13, 6, 14, 7], X[7, 12, 8, 13], X[9, 17, 10, 16], X[15, 18, 16, 1], X[17, 9, 18, 8]}
- » Knot[9, 47] → {X[2, 15, 3, 16], X[6, 2, 7, 1], X[16, 8, 17, 7], X[8, 3, 9, 4],
X[14, 9, 15, 10], X[4, 14, 5, 13], X[10, 6, 11, 5], X[11, 1, 12, 18], X[17, 13, 18, 12]}
- » Knot[9, 48] → {X[1, 4, 2, 5], X[3, 11, 4, 10], X[11, 3, 12, 2], X[9, 17, 10, 16],
X[15, 18, 16, 1], X[14, 6, 15, 5], X[6, 14, 7, 13], X[12, 8, 13, 7], X[17, 9, 18, 8]}
- » Knot[9, 49] → {X[3, 11, 4, 10], X[9, 17, 10, 16], X[11, 3, 12, 2], X[15, 5, 16, 4],
X[5, 15, 6, 14], X[6, 2, 7, 1], X[12, 8, 13, 7], X[17, 9, 18, 8], X[18, 14, 1, 13]}
- » Knot[10, 1] → {X[1, 4, 2, 5], X[5, 20, 6, 1], X[19, 6, 20, 7], X[7, 18, 8, 19], X[17, 8, 18, 9],
X[9, 16, 10, 17], X[15, 10, 16, 11], X[11, 14, 12, 15], X[3, 13, 4, 12], X[13, 3, 14, 2]}
- » Knot[10, 2] → {X[3, 13, 4, 12], X[13, 3, 14, 2], X[1, 4, 2, 5], X[5, 14, 6, 15], X[11, 20, 12, 1],
X[15, 6, 16, 7], X[7, 16, 8, 17], X[17, 8, 18, 9], X[9, 18, 10, 19], X[19, 10, 20, 11]}
- » Knot[10, 3] → {X[1, 6, 2, 7], X[7, 20, 8, 1], X[19, 8, 20, 9], X[9, 18, 10, 19], X[17, 10, 18, 11],
X[11, 16, 12, 17], X[5, 13, 6, 12], X[13, 5, 14, 4], X[3, 15, 4, 14], X[15, 3, 16, 2]}
- » Knot[10, 4] → {X[4, 13, 5, 14], X[12, 3, 13, 4], X[14, 5, 15, 6], X[2, 15, 3, 16], X[6, 2, 7, 1],
X[16, 12, 17, 11], X[10, 18, 11, 17], X[18, 10, 19, 9], X[8, 20, 9, 19], X[20, 8, 1, 7]}
- » Knot[10, 5] → {X[3, 12, 4, 13], X[11, 2, 12, 3], X[1, 4, 2, 5], X[13, 1, 14, 20], X[5, 15, 6, 14],
X[15, 7, 16, 6], X[7, 17, 8, 16], X[17, 9, 18, 8], X[9, 19, 10, 18], X[19, 11, 20, 10]}
- » Knot[10, 6] → {X[3, 13, 4, 12], X[13, 3, 14, 2], X[1, 4, 2, 5], X[11, 14, 12, 15], X[15, 10, 16, 11],
X[5, 16, 6, 17], X[9, 20, 10, 1], X[17, 6, 18, 7], X[7, 18, 8, 19], X[19, 8, 20, 9]}
- » Knot[10, 7] → {X[3, 13, 4, 12], X[13, 3, 14, 2], X[1, 4, 2, 5], X[5, 14, 6, 15], X[11, 20, 12, 1],
X[15, 10, 16, 11], X[9, 16, 10, 17], X[17, 8, 18, 9], X[7, 18, 8, 19], X[19, 6, 20, 7]}

- » Knot [10, 8] \rightarrow {X[3, 15, 4, 14], X[13, 5, 14, 4], X[5, 13, 6, 12], X[15, 3, 16, 2], X[1, 6, 2, 7], X[7, 16, 8, 17], X[11, 20, 12, 1], X[17, 8, 18, 9], X[9, 18, 10, 19], X[19, 10, 20, 11]}
- » Knot [10, 9] \rightarrow {X[4, 13, 5, 14], X[12, 3, 13, 4], X[14, 5, 15, 6], X[2, 15, 3, 16], X[6, 2, 7, 1], X[16, 8, 17, 7], X[8, 18, 9, 17], X[18, 10, 19, 9], X[10, 20, 11, 19], X[20, 12, 1, 11]}
- » Knot [10, 10] \rightarrow {X[3, 12, 4, 13], X[11, 2, 12, 3], X[1, 4, 2, 5], X[13, 1, 14, 20], X[5, 15, 6, 14], X[15, 11, 16, 10], X[9, 17, 10, 16], X[17, 9, 18, 8], X[7, 19, 8, 18], X[19, 7, 20, 6]}
- » Knot [10, 11] \rightarrow {X[3, 15, 4, 14], X[13, 5, 14, 4], X[5, 13, 6, 12], X[15, 3, 16, 2], X[1, 6, 2, 7], X[11, 16, 12, 17], X[17, 10, 18, 11], X[7, 18, 8, 19], X[9, 20, 10, 1], X[19, 8, 20, 9]}
- » Knot [10, 12] \rightarrow {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5], X[11, 1, 12, 20], X[19, 13, 20, 12], X[13, 19, 14, 18], X[5, 15, 6, 14], X[15, 7, 16, 6], X[7, 17, 8, 16], X[17, 9, 18, 8]}
- » Knot [10, 13] \rightarrow {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[9, 12, 10, 13], X[13, 1, 14, 20], X[19, 15, 20, 14], X[5, 18, 6, 19], X[15, 8, 16, 9], X[7, 16, 8, 17], X[17, 6, 18, 7]}
- » Knot [10, 14] \rightarrow {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[5, 12, 6, 13], X[13, 20, 14, 1], X[19, 14, 20, 15], X[9, 18, 10, 19], X[15, 6, 16, 7], X[7, 16, 8, 17], X[17, 8, 18, 9]}
- » Knot [10, 15] \rightarrow {X[3, 12, 4, 13], X[11, 2, 12, 3], X[1, 4, 2, 5], X[13, 10, 14, 11], X[9, 14, 10, 15], X[15, 1, 16, 20], X[5, 17, 6, 16], X[17, 7, 18, 6], X[7, 19, 8, 18], X[19, 9, 20, 8]}
- » Knot [10, 16] \rightarrow {X[2, 15, 3, 16], X[14, 3, 15, 4], X[4, 13, 5, 14], X[12, 5, 13, 6], X[6, 2, 7, 1], X[16, 8, 17, 7], X[20, 12, 1, 11], X[8, 20, 9, 19], X[10, 18, 11, 17], X[18, 10, 19, 9]}
- » Knot [10, 17] \rightarrow {X[2, 12, 3, 11], X[12, 4, 13, 3], X[4, 14, 5, 13], X[14, 6, 15, 5], X[6, 2, 7, 1], X[20, 15, 1, 16], X[10, 19, 11, 20], X[16, 7, 17, 8], X[8, 17, 9, 18], X[18, 9, 19, 10]}
- » Knot [10, 18] \rightarrow {X[3, 12, 4, 13], X[11, 2, 12, 3], X[1, 4, 2, 5], X[13, 10, 14, 11], X[5, 14, 6, 15], X[15, 20, 16, 1], X[9, 17, 10, 16], X[17, 9, 18, 8], X[7, 19, 8, 18], X[19, 7, 20, 6]}
- » Knot [10, 19] \rightarrow {X[3, 12, 4, 13], X[11, 2, 12, 3], X[13, 4, 14, 5], X[5, 14, 6, 15], X[1, 6, 2, 7], X[15, 1, 16, 20], X[7, 17, 8, 16], X[17, 11, 18, 10], X[9, 19, 10, 18], X[19, 9, 20, 8]}
- » Knot [10, 20] \rightarrow {X[3, 13, 4, 12], X[13, 3, 14, 2], X[1, 4, 2, 5], X[11, 14, 12, 15], X[15, 10, 16, 11], X[9, 16, 10, 17], X[17, 8, 18, 9], X[5, 18, 6, 19], X[7, 20, 8, 1], X[19, 6, 20, 7]}
- » Knot [10, 21] \rightarrow {X[3, 13, 4, 12], X[13, 3, 14, 2], X[1, 4, 2, 5], X[5, 14, 6, 15], X[11, 20, 12, 1], X[15, 6, 16, 7], X[7, 16, 8, 17], X[17, 10, 18, 11], X[9, 18, 10, 19], X[19, 8, 20, 9]}
- » Knot [10, 22] \rightarrow {X[4, 13, 5, 14], X[12, 3, 13, 4], X[14, 5, 15, 6], X[2, 15, 3, 16], X[6, 2, 7, 1], X[16, 12, 17, 11], X[10, 18, 11, 17], X[18, 8, 19, 7], X[8, 20, 9, 19], X[20, 10, 1, 9]}
- » Knot [10, 23] \rightarrow {X[3, 12, 4, 13], X[11, 2, 12, 3], X[1, 4, 2, 5], X[13, 1, 14, 20], X[5, 15, 6, 14], X[15, 7, 16, 6], X[7, 17, 8, 16], X[17, 11, 18, 10], X[9, 19, 10, 18], X[19, 9, 20, 8]}
- » Knot [10, 24] \rightarrow {X[3, 13, 4, 12], X[13, 3, 14, 2], X[1, 4, 2, 5], X[11, 14, 12, 15], X[15, 10, 16, 11], X[5, 16, 6, 17], X[9, 20, 10, 1], X[17, 8, 18, 9], X[7, 18, 8, 19], X[19, 6, 20, 7]}
- » Knot [10, 25] \rightarrow {X[3, 13, 4, 12], X[13, 3, 14, 2], X[1, 4, 2, 5], X[5, 14, 6, 15], X[11, 20, 12, 1], X[15, 10, 16, 11], X[19, 6, 20, 7], X[7, 16, 8, 17], X[9, 18, 10, 19], X[17, 8, 18, 9]}
- » Knot [10, 26] \rightarrow {X[4, 13, 5, 14], X[12, 3, 13, 4], X[14, 5, 15, 6], X[2, 15, 3, 16], X[6, 2, 7, 1], X[16, 8, 17, 7], X[20, 12, 1, 11], X[8, 20, 9, 19], X[10, 18, 11, 17], X[18, 10, 19, 9]}
- » Knot [10, 27] \rightarrow {X[2, 12, 3, 11], X[12, 4, 13, 3], X[4, 2, 5, 1], X[20, 13, 1, 14], X[14, 5, 15, 6], X[6, 19, 7, 20], X[10, 15, 11, 16], X[16, 7, 17, 8], X[8, 17, 9, 18], X[18, 9, 19, 10]}
- » Knot [10, 28] \rightarrow {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5], X[11, 1, 12, 20], X[19, 13, 20, 12], X[13, 19, 14, 18], X[5, 15, 6, 14], X[15, 9, 16, 8], X[7, 17, 8, 16], X[17, 7, 18, 6]}

- » Knot[10, 29] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[9, 12, 10, 13], X[13, 1, 14, 20], X[19, 15, 20, 14], X[15, 8, 16, 9], X[5, 16, 6, 17], X[7, 18, 8, 19], X[17, 6, 18, 7]}
- » Knot[10, 30] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[5, 12, 6, 13], X[13, 20, 14, 1], X[19, 14, 20, 15], X[9, 18, 10, 19], X[15, 8, 16, 9], X[7, 16, 8, 17], X[17, 6, 18, 7]}
- » Knot[10, 31] → {X[3, 12, 4, 13], X[11, 2, 12, 3], X[1, 4, 2, 5], X[13, 10, 14, 11], X[9, 14, 10, 15], X[15, 1, 16, 20], X[5, 17, 6, 16], X[17, 9, 18, 8], X[7, 19, 8, 18], X[19, 7, 20, 6]}
- » Knot[10, 32] → {X[3, 12, 4, 13], X[11, 2, 12, 3], X[1, 4, 2, 5], X[13, 10, 14, 11], X[5, 14, 6, 15], X[15, 20, 16, 1], X[19, 7, 20, 6], X[7, 17, 8, 16], X[9, 19, 10, 18], X[17, 9, 18, 8]}
- » Knot[10, 33] → {X[2, 14, 3, 13], X[12, 4, 13, 3], X[4, 12, 5, 11], X[14, 6, 15, 5], X[6, 2, 7, 1], X[20, 15, 1, 16], X[16, 7, 17, 8], X[8, 19, 9, 20], X[10, 17, 11, 18], X[18, 9, 19, 10]}
- » Knot[10, 34] → {X[3, 8, 4, 9], X[7, 2, 8, 3], X[1, 4, 2, 5], X[9, 1, 10, 20], X[19, 11, 20, 10], X[11, 19, 12, 18], X[17, 13, 18, 12], X[13, 17, 14, 16], X[5, 15, 6, 14], X[15, 7, 16, 6]}
- » Knot[10, 35] → {X[3, 9, 4, 8], X[9, 3, 10, 2], X[1, 4, 2, 5], X[7, 10, 8, 11], X[11, 1, 12, 20], X[19, 13, 20, 12], X[13, 19, 14, 18], X[17, 15, 18, 14], X[5, 16, 6, 17], X[15, 6, 16, 7]}
- » Knot[10, 36] → {X[3, 9, 4, 8], X[9, 3, 10, 2], X[1, 4, 2, 5], X[5, 10, 6, 11], X[11, 20, 12, 1], X[19, 12, 20, 13], X[13, 18, 14, 19], X[17, 14, 18, 15], X[7, 16, 8, 17], X[15, 6, 16, 7]}
- » Knot[10, 37] → {X[2, 10, 3, 9], X[10, 4, 11, 3], X[4, 2, 5, 1], X[8, 12, 9, 11], X[12, 8, 13, 7], X[20, 13, 1, 14], X[14, 19, 15, 20], X[18, 15, 19, 16], X[6, 17, 7, 18], X[16, 5, 17, 6]}
- » Knot[10, 38] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5], X[11, 8, 12, 9], X[5, 12, 6, 13], X[13, 20, 14, 1], X[19, 14, 20, 15], X[15, 18, 16, 19], X[7, 17, 8, 16], X[17, 7, 18, 6]}
- » Knot[10, 39] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[5, 12, 6, 13], X[13, 6, 14, 7], X[7, 14, 8, 15], X[15, 20, 16, 1], X[19, 16, 20, 17], X[9, 18, 10, 19], X[17, 8, 18, 9]}
- » Knot[10, 40] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5], X[11, 1, 12, 20], X[5, 13, 6, 12], X[13, 7, 14, 6], X[19, 15, 20, 14], X[15, 19, 16, 18], X[7, 17, 8, 16], X[17, 9, 18, 8]}
- » Knot[10, 41] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[5, 12, 6, 13], X[9, 20, 10, 1], X[13, 8, 14, 9], X[19, 15, 20, 14], X[15, 19, 16, 18], X[7, 16, 8, 17], X[17, 6, 18, 7]}
- » Knot[10, 42] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[1, 4, 2, 5], X[11, 1, 12, 20], X[5, 13, 6, 12], X[13, 9, 14, 8], X[19, 14, 20, 15], X[15, 18, 16, 19], X[7, 17, 8, 16], X[17, 7, 18, 6]}
- » Knot[10, 43] → {X[2, 10, 3, 9], X[10, 4, 11, 3], X[4, 2, 5, 1], X[20, 11, 1, 12], X[12, 19, 13, 20], X[8, 14, 9, 13], X[14, 8, 15, 7], X[18, 15, 19, 16], X[6, 17, 7, 18], X[16, 5, 17, 6]}
- » Knot[10, 44] → {X[3, 11, 4, 10], X[11, 3, 12, 2], X[1, 4, 2, 5], X[5, 12, 6, 13], X[13, 20, 14, 1], X[9, 15, 10, 14], X[19, 7, 20, 6], X[15, 18, 16, 19], X[7, 16, 8, 17], X[17, 8, 18, 9]}
- » Knot[10, 45] → {X[2, 11, 3, 12], X[10, 3, 11, 4], X[4, 2, 5, 1], X[12, 6, 13, 5], X[20, 14, 1, 13], X[6, 19, 7, 20], X[14, 7, 15, 8], X[18, 15, 19, 16], X[8, 18, 9, 17], X[16, 10, 17, 9]}
- » Knot[10, 46] → {X[2, 8, 3, 7], X[6, 2, 7, 1], X[8, 4, 9, 3], X[4, 15, 5, 16], X[14, 5, 15, 6], X[16, 10, 17, 9], X[10, 18, 11, 17], X[18, 12, 19, 11], X[12, 20, 13, 19], X[20, 14, 1, 13]}
- » Knot[10, 47] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 15, 6, 14], X[13, 1, 14, 20], X[15, 7, 16, 6], X[9, 17, 10, 16], X[17, 11, 18, 10], X[11, 19, 12, 18], X[19, 13, 20, 12]}
- » Knot[10, 48] → {X[2, 8, 3, 7], X[6, 2, 7, 1], X[8, 4, 9, 3], X[4, 14, 5, 13], X[14, 6, 15, 5], X[12, 19, 13, 20], X[18, 11, 19, 12], X[10, 17, 11, 18], X[16, 9, 17, 10], X[20, 15, 1, 16]}
- » Knot[10, 49] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 14, 6, 15], X[13, 6, 14, 7], X[9, 16, 10, 17], X[15, 20, 16, 1], X[17, 10, 18, 11], X[11, 18, 12, 19], X[19, 12, 20, 13]}

- » Knot [10, 50] \rightarrow {X[2, 8, 3, 7], X[6, 2, 7, 1], X[8, 4, 9, 3], X[4, 15, 5, 16], X[14, 5, 15, 6], X[16, 10, 17, 9], X[10, 20, 11, 19], X[18, 12, 19, 11], X[12, 18, 13, 17], X[20, 14, 1, 13]}
- » Knot [10, 51] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 15, 6, 14], X[13, 1, 14, 20], X[15, 7, 16, 6], X[9, 17, 10, 16], X[17, 13, 18, 12], X[11, 19, 12, 18], X[19, 11, 20, 10]}
- » Knot [10, 52] \rightarrow {X[2, 8, 3, 7], X[6, 2, 7, 1], X[8, 4, 9, 3], X[4, 14, 5, 13], X[14, 6, 15, 5], X[12, 17, 13, 18], X[16, 9, 17, 10], X[18, 11, 19, 12], X[10, 19, 11, 20], X[20, 15, 1, 16]}
- » Knot [10, 53] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 14, 6, 15], X[13, 6, 14, 7], X[9, 16, 10, 17], X[15, 20, 16, 1], X[17, 12, 18, 13], X[11, 18, 12, 19], X[19, 10, 20, 11]}
- » Knot [10, 54] \rightarrow {X[1, 4, 2, 5], X[3, 10, 4, 11], X[9, 2, 10, 3], X[5, 17, 6, 16], X[11, 8, 12, 9], X[7, 12, 8, 13], X[15, 1, 16, 20], X[17, 7, 18, 6], X[13, 19, 14, 18], X[19, 15, 20, 14]}
- » Knot [10, 55] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 12, 6, 13], X[11, 6, 12, 7], X[9, 16, 10, 17], X[13, 20, 14, 1], X[17, 10, 18, 11], X[15, 18, 16, 19], X[19, 14, 20, 15]}
- » Knot [10, 56] \rightarrow {X[2, 10, 3, 9], X[4, 2, 5, 1], X[10, 4, 11, 3], X[8, 12, 9, 11], X[12, 6, 13, 5], X[6, 17, 7, 18], X[16, 7, 17, 8], X[18, 14, 19, 13], X[14, 20, 15, 19], X[20, 16, 1, 15]}
- » Knot [10, 57] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 13, 6, 12], X[13, 7, 14, 6], X[9, 15, 10, 14], X[11, 19, 12, 18], X[15, 1, 16, 20], X[17, 11, 18, 10], X[19, 17, 20, 16]}
- » Knot [10, 58] \rightarrow {X[1, 4, 2, 5], X[3, 9, 4, 8], X[9, 3, 10, 2], X[5, 14, 6, 15], X[7, 10, 8, 11], X[13, 6, 14, 7], X[11, 19, 12, 18], X[15, 20, 16, 1], X[17, 13, 18, 12], X[19, 16, 20, 17]}
- » Knot [10, 59] \rightarrow {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 6, 11, 5], X[6, 14, 7, 13], X[14, 8, 15, 7], X[12, 18, 13, 17], X[18, 12, 19, 11], X[16, 19, 17, 20], X[20, 15, 1, 16]}
- » Knot [10, 60] \rightarrow {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 6, 11, 5], X[6, 15, 7, 16], X[14, 7, 15, 8], X[16, 12, 17, 11], X[12, 19, 13, 20], X[18, 13, 19, 14], X[20, 18, 1, 17]}
- » Knot [10, 61] \rightarrow {X[2, 10, 3, 9], X[8, 2, 9, 1], X[10, 4, 11, 3], X[4, 17, 5, 18], X[16, 5, 17, 6], X[6, 15, 7, 16], X[14, 7, 15, 8], X[18, 12, 19, 11], X[12, 20, 13, 19], X[20, 14, 1, 13]}
- » Knot [10, 62] \rightarrow {X[1, 4, 2, 5], X[3, 10, 4, 11], X[9, 2, 10, 3], X[5, 15, 6, 14], X[13, 1, 14, 20], X[15, 7, 16, 6], X[7, 17, 8, 16], X[17, 9, 18, 8], X[11, 19, 12, 18], X[19, 13, 20, 12]}
- » Knot [10, 63] \rightarrow {X[1, 4, 2, 5], X[3, 10, 4, 11], X[9, 2, 10, 3], X[5, 16, 6, 17], X[15, 6, 16, 7], X[7, 14, 8, 15], X[13, 8, 14, 9], X[11, 18, 12, 19], X[17, 20, 18, 1], X[19, 12, 20, 13]}
- » Knot [10, 64] \rightarrow {X[2, 10, 3, 9], X[8, 2, 9, 1], X[10, 4, 11, 3], X[4, 17, 5, 18], X[16, 7, 17, 8], X[6, 15, 7, 16], X[14, 5, 15, 6], X[18, 12, 19, 11], X[12, 20, 13, 19], X[20, 14, 1, 13]}
- » Knot [10, 65] \rightarrow {X[1, 4, 2, 5], X[3, 10, 4, 11], X[9, 2, 10, 3], X[5, 15, 6, 14], X[13, 1, 14, 20], X[15, 9, 16, 8], X[7, 17, 8, 16], X[17, 7, 18, 6], X[11, 19, 12, 18], X[19, 13, 20, 12]}
- » Knot [10, 66] \rightarrow {X[1, 4, 2, 5], X[3, 10, 4, 11], X[9, 2, 10, 3], X[5, 14, 6, 15], X[13, 8, 14, 9], X[15, 6, 16, 7], X[7, 16, 8, 17], X[11, 18, 12, 19], X[17, 20, 18, 1], X[19, 12, 20, 13]}
- » Knot [10, 67] \rightarrow {X[1, 4, 2, 5], X[3, 11, 4, 10], X[11, 3, 12, 2], X[5, 14, 6, 15], X[13, 6, 14, 7], X[7, 12, 8, 13], X[9, 18, 10, 19], X[15, 20, 16, 1], X[17, 8, 18, 9], X[19, 16, 20, 17]}
- » Knot [10, 68] \rightarrow {X[2, 12, 3, 11], X[4, 2, 5, 1], X[12, 4, 13, 3], X[10, 17, 11, 18], X[16, 5, 17, 6], X[6, 15, 7, 16], X[14, 7, 15, 8], X[18, 9, 19, 10], X[8, 19, 9, 20], X[20, 13, 1, 14]}
- » Knot [10, 69] \rightarrow {X[1, 4, 2, 5], X[3, 11, 4, 10], X[11, 3, 12, 2], X[5, 15, 6, 14], X[15, 7, 16, 6], X[7, 12, 8, 13], X[13, 17, 14, 16], X[9, 19, 10, 18], X[17, 20, 18, 1], X[19, 9, 20, 8]}
- » Knot [10, 70] \rightarrow {X[1, 4, 2, 5], X[3, 9, 4, 8], X[9, 3, 10, 2], X[5, 16, 6, 17], X[7, 10, 8, 11], X[15, 6, 16, 7], X[11, 19, 12, 18], X[17, 15, 18, 14], X[13, 1, 14, 20], X[19, 13, 20, 12]}

- » Knot [10, 71] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 13, 6, 12], X[13, 7, 14, 6], X[9, 19, 10, 18], X[11, 15, 12, 14], X[15, 20, 16, 1], X[17, 11, 18, 10], X[19, 16, 20, 17]}
- » Knot [10, 72] \rightarrow {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 6, 11, 5], X[6, 16, 7, 15], X[16, 8, 17, 7], X[14, 18, 15, 17], X[18, 12, 19, 11], X[12, 20, 13, 19], X[20, 14, 1, 13]}
- » Knot [10, 73] \rightarrow {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 6, 11, 5], X[6, 15, 7, 16], X[14, 7, 15, 8], X[16, 14, 17, 13], X[12, 19, 13, 20], X[18, 11, 19, 12], X[20, 17, 1, 18]}
- » Knot [10, 74] \rightarrow {X[1, 4, 2, 5], X[3, 13, 4, 12], X[13, 3, 14, 2], X[5, 14, 6, 15], X[9, 20, 10, 1], X[15, 8, 16, 9], X[7, 16, 8, 17], X[17, 6, 18, 7], X[11, 18, 12, 19], X[19, 10, 20, 11]}
- » Knot [10, 75] \rightarrow {X[1, 4, 2, 5], X[3, 11, 4, 10], X[11, 3, 12, 2], X[5, 12, 6, 13], X[9, 19, 10, 18], X[17, 20, 18, 1], X[13, 16, 14, 17], X[15, 7, 16, 6], X[7, 15, 8, 14], X[19, 9, 20, 8]}
- » Knot [10, 76] \rightarrow {X[2, 13, 3, 14], X[4, 2, 5, 1], X[12, 3, 13, 4], X[14, 10, 15, 9], X[10, 16, 11, 15], X[16, 12, 17, 11], X[8, 18, 9, 17], X[18, 6, 19, 5], X[6, 20, 7, 19], X[20, 8, 1, 7]}
- » Knot [10, 77] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 15, 6, 14], X[15, 7, 16, 6], X[9, 19, 10, 18], X[13, 17, 14, 16], X[17, 13, 18, 12], X[11, 1, 12, 20], X[19, 11, 20, 10]}
- » Knot [10, 78] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 14, 6, 15], X[13, 6, 14, 7], X[9, 18, 10, 19], X[15, 13, 16, 12], X[11, 17, 12, 16], X[17, 20, 18, 1], X[19, 10, 20, 11]}
- » Knot [10, 79] \rightarrow {X[2, 8, 3, 7], X[6, 2, 7, 1], X[8, 4, 9, 3], X[4, 12, 5, 11], X[12, 6, 13, 5], X[10, 17, 11, 18], X[16, 9, 17, 10], X[18, 13, 19, 14], X[14, 19, 15, 20], X[20, 15, 1, 16]}
- » Knot [10, 80] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 12, 6, 13], X[11, 6, 12, 7], X[9, 16, 10, 17], X[15, 20, 16, 1], X[17, 10, 18, 11], X[13, 18, 14, 19], X[19, 14, 20, 15]}
- » Knot [10, 81] \rightarrow {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[6, 12, 7, 11], X[12, 6, 13, 5], X[10, 15, 11, 16], X[16, 9, 17, 10], X[14, 19, 15, 20], X[18, 13, 19, 14], X[20, 17, 1, 18]}
- » Knot [10, 82] \rightarrow {X[1, 6, 2, 7], X[5, 15, 6, 14], X[13, 20, 14, 1], X[15, 3, 16, 2], X[7, 16, 8, 17], X[3, 9, 4, 8], X[9, 5, 10, 4], X[17, 10, 18, 11], X[11, 18, 12, 19], X[19, 12, 20, 13]}
- » Knot [10, 83] \rightarrow {X[1, 6, 2, 7], X[5, 16, 6, 17], X[15, 2, 16, 3], X[7, 15, 8, 14], X[3, 9, 4, 8], X[9, 5, 10, 4], X[13, 1, 14, 20], X[17, 13, 18, 12], X[11, 19, 12, 18], X[19, 11, 20, 10]}
- » Knot [10, 84] \rightarrow {X[2, 10, 3, 9], X[4, 2, 5, 1], X[10, 4, 11, 3], X[8, 12, 9, 11], X[12, 18, 13, 17], X[16, 5, 17, 6], X[18, 14, 19, 13], X[6, 19, 7, 20], X[14, 8, 15, 7], X[20, 15, 1, 16]}
- » Knot [10, 85] \rightarrow {X[2, 16, 3, 15], X[6, 2, 7, 1], X[14, 7, 15, 8], X[8, 3, 9, 4], X[4, 9, 5, 10], X[16, 6, 17, 5], X[10, 17, 11, 18], X[18, 11, 19, 12], X[12, 19, 13, 20], X[20, 13, 1, 14]}
- » Knot [10, 86] \rightarrow {X[2, 15, 3, 16], X[6, 2, 7, 1], X[14, 5, 15, 6], X[16, 8, 17, 7], X[8, 3, 9, 4], X[4, 9, 5, 10], X[10, 20, 11, 19], X[18, 12, 19, 11], X[12, 18, 13, 17], X[20, 14, 1, 13]}
- » Knot [10, 87] \rightarrow {X[2, 10, 3, 9], X[4, 2, 5, 1], X[10, 4, 11, 3], X[8, 12, 9, 11], X[12, 17, 13, 18], X[16, 7, 17, 8], X[18, 13, 19, 14], X[6, 19, 7, 20], X[14, 6, 15, 5], X[20, 16, 1, 15]}
- » Knot [10, 88] \rightarrow {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 18, 11, 17], X[16, 12, 17, 11], X[12, 6, 13, 5], X[18, 15, 19, 16], X[6, 19, 7, 20], X[14, 7, 15, 8], X[20, 14, 1, 13]}
- » Knot [10, 89] \rightarrow {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 17, 11, 18], X[16, 11, 17, 12], X[12, 8, 13, 7], X[18, 16, 19, 15], X[6, 19, 7, 20], X[14, 5, 15, 6], X[20, 13, 1, 14]}
- » Knot [10, 90] \rightarrow {X[2, 8, 3, 7], X[6, 2, 7, 1], X[8, 15, 9, 16], X[14, 5, 15, 6], X[16, 9, 17, 10], X[4, 17, 5, 18], X[10, 4, 11, 3], X[18, 14, 19, 13], X[12, 20, 13, 19], X[20, 12, 1, 11]}
- » Knot [10, 91] \rightarrow {X[2, 18, 3, 17], X[10, 3, 11, 4], X[16, 9, 17, 10], X[8, 15, 9, 16], X[14, 7, 15, 8], X[4, 13, 5, 14], X[6, 2, 7, 1], X[18, 12, 19, 11], X[12, 20, 13, 19], X[20, 6, 1, 5]}

- » Knot [10, 92] \rightarrow {X[2, 10, 3, 9], X[4, 2, 5, 1], X[10, 4, 11, 3], X[8, 14, 9, 13], X[14, 6, 15, 5], X[20, 16, 1, 15], X[6, 19, 7, 20], X[16, 12, 17, 11], X[12, 18, 13, 17], X[18, 7, 19, 8]}
- » Knot [10, 93] \rightarrow {X[2, 16, 3, 15], X[6, 2, 7, 1], X[16, 6, 17, 5], X[20, 8, 1, 7], X[8, 20, 9, 19], X[14, 9, 15, 10], X[10, 3, 11, 4], X[4, 11, 5, 12], X[12, 17, 13, 18], X[18, 13, 19, 14]}
- » Knot [10, 94] \rightarrow {X[2, 8, 3, 7], X[6, 2, 7, 1], X[8, 15, 9, 16], X[14, 5, 15, 6], X[16, 9, 17, 10], X[4, 17, 5, 18], X[10, 4, 11, 3], X[18, 12, 19, 11], X[12, 20, 13, 19], X[20, 14, 1, 13]}
- » Knot [10, 95] \rightarrow {X[1, 4, 2, 5], X[3, 10, 4, 11], X[9, 2, 10, 3], X[5, 15, 6, 14], X[13, 1, 14, 20], X[15, 9, 16, 8], X[11, 17, 12, 16], X[17, 13, 18, 12], X[7, 19, 8, 18], X[19, 7, 20, 6]}
- » Knot [10, 96] \rightarrow {X[1, 4, 2, 5], X[3, 9, 4, 8], X[9, 3, 10, 2], X[5, 18, 6, 19], X[17, 11, 18, 10], X[11, 17, 12, 16], X[7, 12, 8, 13], X[13, 1, 14, 20], X[15, 6, 16, 7], X[19, 15, 20, 14]}
- » Knot [10, 97] \rightarrow {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[10, 18, 11, 17], X[16, 12, 17, 11], X[12, 6, 13, 5], X[6, 16, 7, 15], X[18, 8, 19, 7], X[14, 20, 15, 19], X[20, 14, 1, 13]}
- » Knot [10, 98] \rightarrow {X[1, 6, 2, 7], X[5, 15, 6, 14], X[13, 20, 14, 1], X[15, 5, 16, 4], X[19, 12, 20, 13], X[7, 18, 8, 19], X[11, 16, 12, 17], X[3, 10, 4, 11], X[9, 2, 10, 3], X[17, 8, 18, 9]}
- » Knot [10, 99] \rightarrow {X[2, 10, 3, 9], X[8, 15, 9, 16], X[10, 4, 11, 3], X[14, 7, 15, 8], X[6, 2, 7, 1], X[16, 11, 17, 12], X[4, 18, 5, 17], X[18, 6, 19, 5], X[12, 19, 13, 20], X[20, 13, 1, 14]}
- » Knot [10, 100] \rightarrow {X[2, 18, 3, 17], X[10, 3, 11, 4], X[4, 11, 5, 12], X[16, 9, 17, 10], X[8, 15, 9, 16], X[14, 7, 15, 8], X[6, 2, 7, 1], X[18, 6, 19, 5], X[12, 19, 13, 20], X[20, 13, 1, 14]}
- » Knot [10, 101] \rightarrow {X[2, 10, 3, 9], X[4, 2, 5, 1], X[10, 4, 11, 3], X[8, 18, 9, 17], X[16, 12, 17, 11], X[18, 8, 19, 7], X[12, 20, 13, 19], X[6, 14, 7, 13], X[14, 6, 15, 5], X[20, 16, 1, 15]}
- » Knot [10, 102] \rightarrow {X[2, 15, 3, 16], X[6, 2, 7, 1], X[14, 5, 15, 6], X[20, 14, 1, 13], X[12, 20, 13, 19], X[4, 11, 5, 12], X[10, 3, 11, 4], X[16, 10, 17, 9], X[8, 18, 9, 17], X[18, 8, 19, 7]}
- » Knot [10, 103] \rightarrow {X[2, 18, 3, 17], X[6, 2, 7, 1], X[16, 7, 17, 8], X[8, 15, 9, 16], X[14, 9, 15, 10], X[10, 3, 11, 4], X[4, 11, 5, 12], X[18, 6, 19, 5], X[12, 19, 13, 20], X[20, 13, 1, 14]}
- » Knot [10, 104] \rightarrow {X[2, 16, 3, 15], X[6, 2, 7, 1], X[14, 7, 15, 8], X[16, 4, 17, 3], X[8, 17, 9, 18], X[18, 9, 19, 10], X[10, 19, 11, 20], X[4, 12, 5, 11], X[12, 6, 13, 5], X[20, 13, 1, 14]}
- » Knot [10, 105] \rightarrow {X[2, 12, 3, 11], X[4, 2, 5, 1], X[12, 4, 13, 3], X[8, 14, 9, 13], X[20, 8, 1, 7], X[14, 20, 15, 19], X[6, 15, 7, 16], X[16, 5, 17, 6], X[10, 17, 11, 18], X[18, 9, 19, 10]}
- » Knot [10, 106] \rightarrow {X[2, 15, 3, 16], X[6, 2, 7, 1], X[14, 5, 15, 6], X[16, 8, 17, 7], X[8, 18, 9, 17], X[18, 10, 19, 9], X[10, 3, 11, 4], X[4, 11, 5, 12], X[12, 20, 13, 19], X[20, 14, 1, 13]}
- » Knot [10, 107] \rightarrow {X[1, 4, 2, 5], X[3, 12, 4, 13], X[11, 2, 12, 3], X[5, 17, 6, 16], X[15, 1, 16, 20], X[17, 11, 18, 10], X[9, 19, 10, 18], X[13, 8, 14, 9], X[7, 14, 8, 15], X[19, 7, 20, 6]}
- » Knot [10, 108] \rightarrow {X[2, 16, 3, 15], X[6, 2, 7, 1], X[14, 7, 15, 8], X[16, 4, 17, 3], X[20, 13, 1, 14], X[8, 19, 9, 20], X[12, 6, 13, 5], X[4, 12, 5, 11], X[10, 17, 11, 18], X[18, 9, 19, 10]}
- » Knot [10, 109] \rightarrow {X[2, 10, 3, 9], X[8, 17, 9, 18], X[10, 4, 11, 3], X[16, 7, 17, 8], X[6, 2, 7, 1], X[18, 11, 19, 12], X[12, 19, 13, 20], X[4, 14, 5, 13], X[14, 6, 15, 5], X[20, 15, 1, 16]}
- » Knot [10, 110] \rightarrow {X[1, 6, 2, 7], X[5, 16, 6, 17], X[7, 20, 8, 1], X[15, 4, 16, 5], X[17, 8, 18, 9], X[9, 14, 10, 15], X[3, 11, 4, 10], X[11, 3, 12, 2], X[13, 19, 14, 18], X[19, 13, 20, 12]}
- » Knot [10, 111] \rightarrow {X[2, 10, 3, 9], X[8, 14, 9, 13], X[10, 4, 11, 3], X[14, 8, 15, 7], X[6, 2, 7, 1], X[20, 16, 1, 15], X[12, 20, 13, 19], X[16, 5, 17, 6], X[4, 17, 5, 18], X[18, 12, 19, 11]}
- » Knot [10, 112] \rightarrow {X[2, 16, 3, 15], X[6, 2, 7, 1], X[14, 7, 15, 8], X[8, 3, 9, 4], X[16, 10, 17, 9], X[4, 17, 5, 18], X[10, 6, 11, 5], X[18, 11, 19, 12], X[12, 19, 13, 20], X[20, 13, 1, 14]}

- » Knot [10, 113] \rightarrow {X[2, 10, 3, 9], X[4, 2, 5, 1], X[10, 4, 11, 3], X[8, 18, 9, 17], X[16, 12, 17, 11], X[12, 7, 13, 8], X[18, 13, 19, 14], X[6, 19, 7, 20], X[14, 6, 15, 5], X[20, 16, 1, 15]}
- » Knot [10, 114] \rightarrow {X[2, 16, 3, 15], X[6, 2, 7, 1], X[14, 7, 15, 8], X[8, 3, 9, 4], X[16, 10, 17, 9], X[4, 17, 5, 18], X[10, 6, 11, 5], X[18, 13, 19, 14], X[12, 19, 13, 20], X[20, 11, 1, 12]}
- » Knot [10, 115] \rightarrow {X[2, 14, 3, 13], X[6, 2, 7, 1], X[14, 6, 15, 5], X[20, 15, 1, 16], X[16, 7, 17, 8], X[8, 19, 9, 20], X[4, 10, 5, 9], X[10, 4, 11, 3], X[12, 17, 13, 18], X[18, 11, 19, 12]}
- » Knot [10, 116] \rightarrow {X[2, 10, 3, 9], X[8, 15, 9, 16], X[14, 7, 15, 8], X[6, 2, 7, 1], X[16, 3, 17, 4], X[10, 18, 11, 17], X[4, 11, 5, 12], X[18, 6, 19, 5], X[12, 19, 13, 20], X[20, 13, 1, 14]}
- » Knot [10, 117] \rightarrow {X[1, 6, 2, 7], X[5, 16, 6, 17], X[15, 2, 16, 3], X[7, 15, 8, 14], X[13, 1, 14, 20], X[17, 13, 18, 12], X[11, 5, 12, 4], X[3, 11, 4, 10], X[9, 19, 10, 18], X[19, 9, 20, 8]}
- » Knot [10, 118] \rightarrow {X[2, 16, 3, 15], X[6, 2, 7, 1], X[14, 7, 15, 8], X[8, 3, 9, 4], X[16, 10, 17, 9], X[10, 18, 11, 17], X[4, 11, 5, 12], X[18, 6, 19, 5], X[12, 19, 13, 20], X[20, 13, 1, 14]}
- » Knot [10, 119] \rightarrow {X[1, 6, 2, 7], X[5, 15, 6, 14], X[13, 20, 14, 1], X[19, 12, 20, 13], X[7, 18, 8, 19], X[11, 5, 12, 4], X[3, 9, 4, 8], X[15, 11, 16, 10], X[9, 17, 10, 16], X[17, 3, 18, 2]}
- » Knot [10, 120] \rightarrow {X[1, 6, 2, 7], X[7, 12, 8, 13], X[13, 20, 14, 1], X[19, 14, 20, 15], X[5, 18, 6, 19], X[15, 8, 16, 9], X[9, 4, 10, 5], X[3, 10, 4, 11], X[11, 16, 12, 17], X[17, 2, 18, 3]}
- » Knot [10, 121] \rightarrow {X[1, 6, 2, 7], X[5, 12, 6, 13], X[7, 20, 8, 1], X[13, 8, 14, 9], X[19, 14, 20, 15], X[9, 19, 10, 18], X[15, 2, 16, 3], X[3, 11, 4, 10], X[11, 16, 12, 17], X[17, 5, 18, 4]}
- » Knot [10, 122] \rightarrow {X[1, 6, 2, 7], X[5, 12, 6, 13], X[13, 1, 14, 20], X[7, 15, 8, 14], X[15, 2, 16, 3], X[11, 16, 12, 17], X[3, 11, 4, 10], X[17, 5, 18, 4], X[9, 19, 10, 18], X[19, 9, 20, 8]}
- » Knot [10, 123] \rightarrow {X[2, 15, 3, 16], X[8, 2, 9, 1], X[14, 7, 15, 8], X[16, 10, 17, 9], X[10, 3, 11, 4], X[4, 18, 5, 17], X[18, 11, 19, 12], X[6, 19, 7, 20], X[12, 6, 13, 5], X[20, 14, 1, 13]}
- » Knot [10, 124] \rightarrow {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[5, 15, 6, 14], X[13, 1, 14, 20], X[15, 7, 16, 6], X[9, 17, 10, 16], X[17, 11, 18, 10], X[11, 19, 12, 18], X[19, 13, 20, 12]}
- » Knot [10, 125] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 14, 6, 15], X[13, 6, 14, 7], X[12, 20, 13, 19], X[18, 12, 19, 11], X[10, 18, 11, 17], X[16, 10, 17, 9], X[20, 16, 1, 15]}
- » Knot [10, 126] \rightarrow {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[5, 14, 6, 15], X[13, 6, 14, 7], X[9, 16, 10, 17], X[15, 20, 16, 1], X[17, 10, 18, 11], X[11, 18, 12, 19], X[19, 12, 20, 13]}
- » Knot [10, 127] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[6, 14, 7, 13], X[14, 6, 15, 5], X[9, 16, 10, 17], X[15, 20, 16, 1], X[17, 10, 18, 11], X[11, 18, 12, 19], X[19, 12, 20, 13]}
- » Knot [10, 128] \rightarrow {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[5, 15, 6, 14], X[13, 1, 14, 20], X[15, 7, 16, 6], X[9, 17, 10, 16], X[17, 13, 18, 12], X[11, 19, 12, 18], X[19, 11, 20, 10]}
- » Knot [10, 129] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 14, 6, 15], X[13, 6, 14, 7], X[12, 18, 13, 17], X[16, 10, 17, 9], X[18, 12, 19, 11], X[10, 20, 11, 19], X[20, 16, 1, 15]}
- » Knot [10, 130] \rightarrow {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[5, 14, 6, 15], X[13, 6, 14, 7], X[9, 16, 10, 17], X[15, 20, 16, 1], X[17, 12, 18, 13], X[11, 18, 12, 19], X[19, 10, 20, 11]}
- » Knot [10, 131] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[6, 14, 7, 13], X[14, 6, 15, 5], X[9, 16, 10, 17], X[15, 20, 16, 1], X[17, 12, 18, 13], X[11, 18, 12, 19], X[19, 10, 20, 11]}
- » Knot [10, 132] \rightarrow {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[5, 12, 6, 13], X[11, 6, 12, 7], X[9, 16, 10, 17], X[13, 20, 14, 1], X[17, 10, 18, 11], X[15, 18, 16, 19], X[19, 14, 20, 15]}
- » Knot [10, 133] \rightarrow {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[5, 13, 6, 12], X[13, 7, 14, 6], X[14, 9, 15, 10], X[10, 17, 11, 18], X[18, 11, 19, 12], X[16, 19, 17, 20], X[20, 15, 1, 16]}

- » Knot [10, 134] → {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[5, 13, 6, 12], X[13, 7, 14, 6], X[9, 15, 10, 14], X[11, 19, 12, 18], X[15, 1, 16, 20], X[17, 11, 18, 10], X[19, 17, 20, 16]}
- » Knot [10, 135] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[6, 13, 7, 14], X[9, 15, 10, 14], X[12, 5, 13, 6], X[11, 19, 12, 18], X[15, 1, 16, 20], X[17, 11, 18, 10], X[19, 17, 20, 16]}
- » Knot [10, 136] → {X[1, 4, 2, 5], X[3, 9, 4, 8], X[9, 3, 10, 2], X[5, 10, 6, 11], X[6, 14, 7, 13], X[14, 8, 15, 7], X[12, 18, 13, 17], X[18, 12, 19, 11], X[16, 19, 17, 20], X[20, 15, 1, 16]}
- » Knot [10, 137] → {X[1, 4, 2, 5], X[3, 9, 4, 8], X[9, 3, 10, 2], X[5, 10, 6, 11], X[6, 15, 7, 16], X[14, 7, 15, 8], X[16, 12, 17, 11], X[12, 19, 13, 20], X[18, 13, 19, 14], X[20, 18, 1, 17]}
- » Knot [10, 138] → {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[7, 15, 8, 14], X[10, 6, 11, 5], X[15, 7, 16, 6], X[16, 12, 17, 11], X[12, 19, 13, 20], X[18, 13, 19, 14], X[20, 18, 1, 17]}
- » Knot [10, 139] → {X[2, 10, 3, 9], X[4, 2, 5, 1], X[10, 4, 11, 3], X[5, 15, 6, 14], X[13, 1, 14, 20], X[15, 7, 16, 6], X[7, 17, 8, 16], X[17, 9, 18, 8], X[11, 19, 12, 18], X[19, 13, 20, 12]}
- » Knot [10, 140] → {X[1, 4, 2, 5], X[3, 10, 4, 11], X[9, 2, 10, 3], X[8, 15, 9, 16], X[14, 5, 15, 6], X[13, 1, 14, 20], X[16, 7, 17, 8], X[6, 17, 7, 18], X[11, 19, 12, 18], X[19, 13, 20, 12]}
- » Knot [10, 141] → {X[1, 4, 2, 5], X[3, 10, 4, 11], X[9, 2, 10, 3], X[8, 14, 9, 13], X[14, 6, 15, 5], X[6, 16, 7, 15], X[16, 8, 17, 7], X[11, 18, 12, 19], X[17, 20, 18, 1], X[19, 12, 20, 13]}
- » Knot [10, 142] → {X[2, 10, 3, 9], X[4, 2, 5, 1], X[10, 4, 11, 3], X[5, 15, 6, 14], X[13, 1, 14, 20], X[15, 9, 16, 8], X[7, 17, 8, 16], X[17, 7, 18, 6], X[11, 19, 12, 18], X[19, 13, 20, 12]}
- » Knot [10, 143] → {X[2, 10, 3, 9], X[4, 2, 5, 1], X[10, 4, 11, 3], X[5, 14, 6, 15], X[13, 8, 14, 9], X[15, 6, 16, 7], X[7, 16, 8, 17], X[11, 18, 12, 19], X[17, 20, 18, 1], X[19, 12, 20, 13]}
- » Knot [10, 144] → {X[1, 4, 2, 5], X[3, 10, 4, 11], X[9, 2, 10, 3], X[5, 15, 6, 14], X[15, 9, 16, 8], X[7, 17, 8, 16], X[17, 7, 18, 6], X[18, 11, 19, 12], X[12, 19, 13, 20], X[20, 13, 1, 14]}
- » Knot [10, 145] → {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[5, 12, 6, 13], X[13, 20, 14, 1], X[19, 14, 20, 15], X[7, 18, 8, 19], X[15, 6, 16, 7], X[11, 16, 12, 17], X[17, 10, 18, 11]}
- » Knot [10, 146] → {X[2, 9, 3, 10], X[4, 2, 5, 1], X[8, 3, 9, 4], X[5, 18, 6, 19], X[17, 11, 18, 10], X[11, 17, 12, 16], X[7, 12, 8, 13], X[13, 1, 14, 20], X[15, 6, 16, 7], X[19, 15, 20, 14]}
- » Knot [10, 147] → {X[2, 10, 3, 9], X[4, 2, 5, 1], X[10, 4, 11, 3], X[5, 14, 6, 15], X[15, 20, 16, 1], X[16, 12, 17, 11], X[8, 18, 9, 17], X[12, 7, 13, 8], X[18, 13, 19, 14], X[19, 7, 20, 6]}
- » Knot [10, 148] → {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[5, 12, 6, 13], X[11, 6, 12, 7], X[9, 16, 10, 17], X[15, 20, 16, 1], X[17, 10, 18, 11], X[13, 18, 14, 19], X[19, 14, 20, 15]}
- » Knot [10, 149] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[6, 12, 7, 11], X[12, 6, 13, 5], X[9, 16, 10, 17], X[15, 20, 16, 1], X[17, 10, 18, 11], X[13, 18, 14, 19], X[19, 14, 20, 15]}
- » Knot [10, 150] → {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[5, 12, 6, 13], X[11, 6, 12, 7], X[9, 17, 10, 16], X[15, 11, 16, 10], X[13, 19, 14, 18], X[17, 1, 18, 20], X[19, 15, 20, 14]}
- » Knot [10, 151] → {X[1, 4, 2, 5], X[3, 8, 4, 9], X[7, 2, 8, 3], X[6, 12, 7, 11], X[12, 6, 13, 5], X[9, 17, 10, 16], X[15, 11, 16, 10], X[13, 19, 14, 18], X[17, 1, 18, 20], X[19, 15, 20, 14]}
- » Knot [10, 152] → {X[1, 6, 2, 7], X[5, 12, 6, 13], X[7, 2, 8, 3], X[3, 8, 4, 9], X[11, 4, 12, 5], X[10, 17, 11, 18], X[16, 9, 17, 10], X[18, 13, 19, 14], X[14, 19, 15, 20], X[20, 15, 1, 16]}
- » Knot [10, 153] → {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[6, 12, 7, 11], X[12, 6, 13, 5], X[9, 16, 10, 17], X[15, 20, 16, 1], X[17, 10, 18, 11], X[13, 18, 14, 19], X[19, 14, 20, 15]}
- » Knot [10, 154] → {X[2, 8, 3, 7], X[4, 2, 5, 1], X[8, 4, 9, 3], X[6, 12, 7, 11], X[12, 6, 13, 5], X[9, 17, 10, 16], X[15, 11, 16, 10], X[13, 19, 14, 18], X[17, 1, 18, 20], X[19, 15, 20, 14]}

- » Knot [10, 155] → {X[1, 6, 2, 7], X[5, 15, 6, 14], X[15, 3, 16, 2], X[7, 16, 8, 17], X[17, 8, 18, 9], X[9, 18, 10, 19], X[3, 11, 4, 10], X[11, 5, 12, 4], X[12, 20, 13, 19], X[20, 14, 1, 13]}
- » Knot [10, 156] → {X[2, 12, 3, 11], X[4, 2, 5, 1], X[12, 4, 13, 3], X[10, 17, 11, 18], X[16, 5, 17, 6], X[18, 9, 19, 10], X[6, 19, 7, 20], X[13, 8, 14, 9], X[7, 14, 8, 15], X[20, 15, 1, 16]}
- » Knot [10, 157] → {X[1, 6, 2, 7], X[7, 15, 8, 14], X[13, 1, 14, 20], X[15, 9, 16, 8], X[2, 10, 3, 9], X[10, 4, 11, 3], X[16, 11, 17, 12], X[4, 18, 5, 17], X[18, 6, 19, 5], X[19, 13, 20, 12]}
- » Knot [10, 158] → {X[3, 10, 4, 11], X[9, 2, 10, 3], X[8, 14, 9, 13], X[14, 8, 15, 7], X[6, 2, 7, 1], X[20, 16, 1, 15], X[5, 17, 6, 16], X[17, 5, 18, 4], X[11, 18, 12, 19], X[19, 12, 20, 13]}
- » Knot [10, 159] → {X[1, 6, 2, 7], X[7, 15, 8, 14], X[15, 2, 16, 3], X[3, 9, 4, 8], X[9, 16, 10, 17], X[5, 10, 6, 11], X[17, 5, 18, 4], X[18, 11, 19, 12], X[12, 19, 13, 20], X[20, 13, 1, 14]}
- » Knot [10, 160] → {X[2, 12, 3, 11], X[4, 2, 5, 1], X[12, 4, 13, 3], X[5, 17, 6, 16], X[15, 1, 16, 20], X[17, 11, 18, 10], X[9, 19, 10, 18], X[13, 8, 14, 9], X[7, 14, 8, 15], X[19, 7, 20, 6]}
- » Knot [10, 161] → {X[1, 4, 2, 5], X[3, 12, 4, 13], X[11, 2, 12, 3], X[10, 17, 11, 18], X[16, 5, 17, 6], X[18, 9, 19, 10], X[6, 19, 7, 20], X[13, 8, 14, 9], X[7, 14, 8, 15], X[20, 15, 1, 16]}
- » Knot [10, 162] → {X[2, 15, 3, 16], X[6, 2, 7, 1], X[14, 5, 15, 6], X[13, 20, 14, 1], X[19, 12, 20, 13], X[4, 11, 5, 12], X[10, 3, 11, 4], X[16, 10, 17, 9], X[8, 18, 9, 17], X[18, 8, 19, 7]}
- » Knot [10, 163] → {X[2, 16, 3, 15], X[6, 2, 7, 1], X[14, 7, 15, 8], X[8, 3, 9, 4], X[16, 10, 17, 9], X[4, 17, 5, 18], X[10, 6, 11, 5], X[11, 1, 12, 20], X[13, 19, 14, 18], X[19, 13, 20, 12]}
- » Knot [10, 164] → {X[3, 11, 4, 10], X[9, 19, 10, 18], X[17, 5, 18, 4], X[11, 16, 12, 17], X[5, 12, 6, 13], X[15, 2, 16, 3], X[6, 2, 7, 1], X[14, 7, 15, 8], X[19, 9, 20, 8], X[20, 13, 1, 14]}
- » Knot [10, 165] → {X[1, 6, 2, 7], X[5, 15, 6, 14], X[20, 14, 1, 13], X[12, 20, 13, 19], X[7, 18, 8, 19], X[11, 5, 12, 4], X[3, 9, 4, 8], X[15, 11, 16, 10], X[9, 17, 10, 16], X[17, 3, 18, 2]}

Out[]:=

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{ {Knot[3, 1] → {X[1, 4, 2, 5], X[3, 6, 4, 1], X[5, 2, 6, 3]}},
  ... 6 ..., {Knot[10, 1] → {X[1, 4, 2, 5], X[5, 20, 6, 1], X[19, 6, 20, 7],
    X[7, 18, 8, 19], X[17, 8, 18, 9], X[9, 16, 10, 17], X[15, 10, 16, 11],
    X[11, 14, 12, 15], X[3, 13, 4, 12], X[13, 3, 14, 2]}}, ... 163 ..., Knot[10, 165] →
  {X[1, 6, 2, 7], X[5, 15, 6, 14], X[20, 14, 1, 13], X[12, 20, 13, 19], X[7, 18, 8, 19],
    X[11, 5, 12, 4], X[3, 9, 4, 8], X[15, 11, 16, 10], X[9, 17, 10, 16], X[17, 3, 18, 2]} } }
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large output show less show more show all set size limit...

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In[ ]:= Table[Echo[Knot[i, j] → MinVWidth[PD[Knot[i, j]]]],
  {i, 3, 10}, {j, 1, quantitiesGivenCrossingNum[i]}
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- » Knot [4, 1] → 4
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Knot [9, 31] → 4, Knot [9, 32] → 6, Knot [9, 33] → 6, Knot [9, 34] → 6, Knot [9, 35] → 6,
 Knot [9, 36] → 6, Knot [9, 37] → 6, Knot [9, 38] → 6, Knot [9, 39] → 6, Knot [9, 40] → 6,
 Knot [9, 41] → 6, Knot [9, 42] → 6, Knot [9, 43] → 6, Knot [9, 44] → 6, Knot [9, 45] → 6,
 Knot [9, 46] → 6, Knot [9, 47] → 6, Knot [9, 48] → 6, Knot [9, 49] → 6},
 {Knot [10, 1] → 4, Knot [10, 2] → 4, Knot [10, 3] → 4, Knot [10, 4] → 4, Knot [10, 5] → 4,
 Knot [10, 6] → 4, Knot [10, 7] → 4, Knot [10, 8] → 4, Knot [10, 9] → 4, Knot [10, 10] → 4,
 Knot [10, 11] → 4, Knot [10, 12] → 4, Knot [10, 13] → 4, Knot [10, 14] → 4, Knot [10, 15] → 4,
 Knot [10, 16] → 4, Knot [10, 17] → 4, Knot [10, 18] → 4, Knot [10, 19] → 4, Knot [10, 20] → 4,
 Knot [10, 21] → 4, Knot [10, 22] → 4, Knot [10, 23] → 4, Knot [10, 24] → 4, Knot [10, 25] → 4,
 Knot [10, 26] → 4, Knot [10, 27] → 4, Knot [10, 28] → 4, Knot [10, 29] → 4, Knot [10, 30] → 4,
 Knot [10, 31] → 4, Knot [10, 32] → 4, Knot [10, 33] → 4, Knot [10, 34] → 4, Knot [10, 35] → 4,
 Knot [10, 36] → 4, Knot [10, 37] → 4, Knot [10, 38] → 4, Knot [10, 39] → 4, Knot [10, 40] → 4,
 Knot [10, 41] → 4, Knot [10, 42] → 4, Knot [10, 43] → 4, Knot [10, 44] → 4, Knot [10, 45] → 4,
 Knot [10, 46] → 6, Knot [10, 47] → 6, Knot [10, 48] → 6, Knot [10, 49] → 6, Knot [10, 50] → 6,
 Knot [10, 51] → 6, Knot [10, 52] → 6, Knot [10, 53] → 6, Knot [10, 54] → 6, Knot [10, 55] → 6,
 Knot [10, 56] → 6, Knot [10, 57] → 6, Knot [10, 58] → 6, Knot [10, 59] → 6, Knot [10, 60] → 6,
 Knot [10, 61] → 6, Knot [10, 62] → 6, Knot [10, 63] → 6, Knot [10, 64] → 6, Knot [10, 65] → 6,
 Knot [10, 66] → 6, Knot [10, 67] → 6, Knot [10, 68] → 6, Knot [10, 69] → 6, Knot [10, 70] → 6,
 Knot [10, 71] → 6, Knot [10, 72] → 6, Knot [10, 73] → 6, Knot [10, 74] → 6, Knot [10, 75] → 6,
 Knot [10, 76] → 6, Knot [10, 77] → 6, Knot [10, 78] → 6, Knot [10, 79] → 6, Knot [10, 80] → 6,
 Knot [10, 81] → 6, Knot [10, 82] → 6, Knot [10, 83] → 6, Knot [10, 84] → 6, Knot [10, 85] → 6,
 Knot [10, 86] → 6, Knot [10, 87] → 6, Knot [10, 88] → 6, Knot [10, 89] → 6,
 Knot [10, 90] → 6, Knot [10, 91] → 6, Knot [10, 92] → 6, Knot [10, 93] → 6,
 Knot [10, 94] → 6, Knot [10, 95] → 6, Knot [10, 96] → 6, Knot [10, 97] → 6,
 Knot [10, 98] → 6, Knot [10, 99] → 6, Knot [10, 100] → 6, Knot [10, 101] → 6,
 Knot [10, 102] → 6, Knot [10, 103] → 6, Knot [10, 104] → 6, Knot [10, 105] → 6,
 Knot [10, 106] → 6, Knot [10, 107] → 6, Knot [10, 108] → 6, Knot [10, 109] → 6,
 Knot [10, 110] → 6, Knot [10, 111] → 6, Knot [10, 112] → 6, Knot [10, 113] → 6,
 Knot [10, 114] → 6, Knot [10, 115] → 6, Knot [10, 116] → 6, Knot [10, 117] → 6,
 Knot [10, 118] → 6, Knot [10, 119] → 6, Knot [10, 120] → 6, Knot [10, 121] → 6,
 Knot [10, 122] → 6, Knot [10, 123] → 6, Knot [10, 124] → 6, Knot [10, 125] → 6,
 Knot [10, 126] → 6, Knot [10, 127] → 6, Knot [10, 128] → 6, Knot [10, 129] → 6,
 Knot [10, 130] → 6, Knot [10, 131] → 6, Knot [10, 132] → 6, Knot [10, 133] → 6,
 Knot [10, 134] → 6, Knot [10, 135] → 6, Knot [10, 136] → 6, Knot [10, 137] → 6,
 Knot [10, 138] → 6, Knot [10, 139] → 6, Knot [10, 140] → 6, Knot [10, 141] → 6,
 Knot [10, 142] → 6, Knot [10, 143] → 6, Knot [10, 144] → 6, Knot [10, 145] → 6,
 Knot [10, 146] → 6, Knot [10, 147] → 6, Knot [10, 148] → 6, Knot [10, 149] → 6,
 Knot [10, 150] → 6, Knot [10, 151] → 6, Knot [10, 152] → 6, Knot [10, 153] → 6,
 Knot [10, 154] → 6, Knot [10, 155] → 6, Knot [10, 156] → 6, Knot [10, 157] → 6,
 Knot [10, 158] → 6, Knot [10, 159] → 6, Knot [10, 160] → 6, Knot [10, 161] → 6,
 Knot [10, 162] → 6, Knot [10, 163] → 6, Knot [10, 164] → 6, Knot [10, 165] → 6} }