

CandidateKnots@ n gives the sorted list of all irreducible planar minimal alternating knot diagrams with n crossings.

```
CandidateKnots@n_Integer := CandidateKnots@n =  
If[n == 0, {MDT[]}, Block[{k, l, p, y = {}},  
  For[p = 0, p < n!, p++, k = MDT[];  
    Do[Delete[Range@n, {List@@k}^l]  
      [[Mod[p, (n - i + 1)!] / (n - i)!] + 1]]  
      // AppendTo[k, #] &;  
    If[2 k[[1]] - 1 > (Abs[2 i - 1 - 2 k[[i]]]  
      // Min[#, 2 n - #] &), p += (n - i)! - 1;  
      Goto@1];  
    If[k[[1]] ≤ i, Do[List@@k[[j];]] ∪ {}  
      // If[# == Range[j, i] || # == Range[j, i] - 1,  
        p += (n - i)! - 1;  
        Goto@1] &, {j, If[i == n && n > 1, 2, 1], i}]],  
      {i, n}];  
    If[PlanarGraphQ@KnotGraph@k && k === Minimal@k,  
      AppendTo[y, k]];  
    Label@1];  
y]]];
```