```
KnotGraph@k_MD :=
  KnotGraph@k = (Join @@ Table[Array[{v, # - 1} ↦ {v, Mod[#, 4]} &, 4] ⋃ {{v, 0} ↦
          {Ordering[List @@ Abs /@ k][[v]], 1}, {v, 2} ↦ {Ordering[List @@ Abs /@ k][[Mod[
            v - 1, Length@k, 1]]], 3}}, {v, Length@k}] // Graph);
```